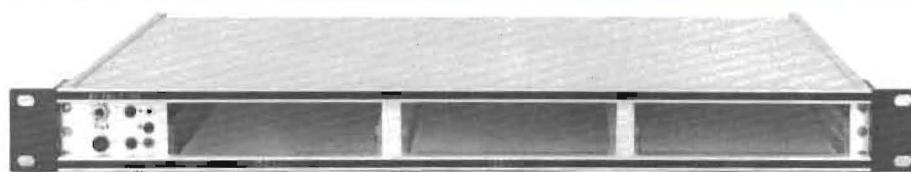




FRAMES AND
POWER SUPPLY



MODEL 101

The **MODEL 101** frame has been designed to mount into a standard 19 inch E.I.A. rack frame assembly. The 101 configuration allows for mounting up to 3 di-tech modules and its built-in power supply.

ELECTRICAL

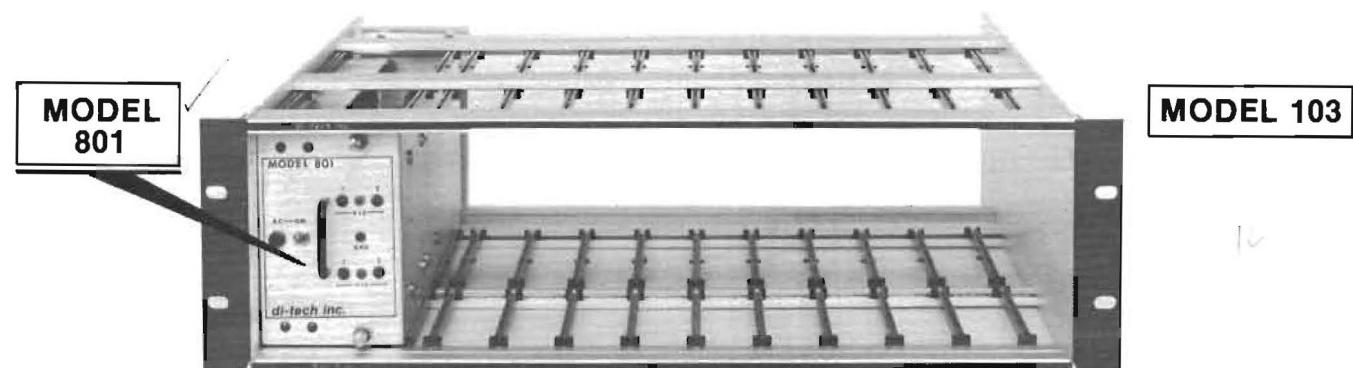
A.C. input	115/230 volts, ±10%
D.C. output	+15 volts @ .6 amps. -15 volts @ .6 amps.

ENVIRONMENTAL

Temperature	-20 to +60 degrees C.
Humidity	0 to 95%

DIMENSIONS 1.75"H. (44.5mm), 19"W. (483mm), 16.25"D. (413mm)

WEIGHT 6 lbs. (2.7kg)



MODEL 103

The **MODEL 103** frame has been designed to mount into a standard 19 inch E.I.A. rack frame assembly. A hinge down front panel is supplied to protect and to allow convenient access to the modules. The Model 801 power supply slides into the frame assembly and up to 10 di-tech modules can be accommodated.

DIMENSIONS 5.25"H. (133mm), 19"Wm (483mm), 16.25"D. (413mm)

WEIGHT 6 lbs (2.7kg)

The **MODEL 801** power supply has been designed to easily handle the current requirements from the di-tech modules under specified voltage variations and temperature environments. A special feature of the power supply is the redundant D.C. circuitry which permits the unit to continually provide the specified voltages in the event of a problem. In addition, the appropriate LED will be extinguished and a contact closure will occur for the external alarm output.

ELECTRICAL

A.C. input	115/230 volts, ±10%
D.C. output	+15 volts @ 2 amps. -15 volts @ 2 amps.

ENVIRONMENTAL

Temperature	-20 to +60 degrees
Humidity	0 to 95%

DIMENSIONS 4.5"H. (114mm), 3"W. (76mm), 13"D. (330mm)

WEIGHT 7 lbs. (3.2kg)

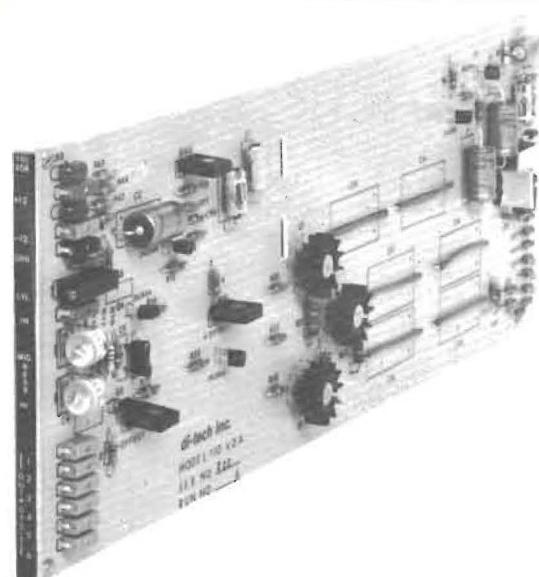
di-tech inc.

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• Tel. 516 - 667-6300



VIDEO
DISTRIBUTION
AMPLIFIER



MODEL 110

KEY FEATURES

- D.C. OUTPUT COUPLING
- REGULATORS ON EVERY D.A.
- 6 OUTPUTS
- 9 dB GAIN
- 20MHz BANDWIDTH
- MOUNTING VERSITILITY

DESCRIPTION

The Model 110 video distribution amplifier emphasises the use of tightly controlled standard component parts that are properly derated for ultra stable performance.

The standard D.C. coupled outputs provide the user with a unit that has minimum tilt and bounce. Each video distribution amplifier has its own regulator, thereby limiting a failure to one unit should a problem occur with the D.C. circuitry. The LED indicators for plus and minus voltages, allow for a convenient and rapid visual indication of normal

operation. The 20 MHz bandwidth, permits distribution of digital data and other wideband information.

The Model 110 video distribution amplifier can be mounted in a vertical or horizontal configuration. For horizontal mounting, the Model 101 frame is used. This frame has a capacity for mounting up to 3 video D.A.'s and, comes complete with its own built in power supply. When the video D.A.'s are mounted vertically, the frame Model 103 is used. The 103 frame requires a Model 801 power supply and, the capacity is up to 10 video D.A.'s.

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SPECIFICATIONS

INPUT

Impedance 60K Bridging, loop thru connectors
Level 3.0VPP Max., composite
Return Loss > 45dB @ 5 MHz, 26dB @ 20 MHz

OUTPUTS

Number 6, D.C. coupled
Impedance 75 ohms $\pm 1\%$
Return Loss > 40dB @ 5 MHz
Gain > 24dB @ 20 MHz
Gain Stability adjustable; unity, +9dB, -20dB
Isolation (amplifier to amplifier) ± 0.05 dB, -20 to +60 degrees C.
Isolation (output to output) > 60dB @ 5 MHz
Level > 40dB @ 5 MHz
Level 2.0VPP Max.

PERFORMANCE

Frequency Response ± 0.1 dB to 10 MHz
Differential Gain ± 0.2 dB from 10 MHz to 15 MHz
Differential Phase ± 0.5 dB from 15 MHz to 20 MHz
Hum and Noise @ 1.0VPP output, < 0.1%
Field Tilt, 50 or 60 Hz @ 2.0VPP output, < 0.2%
Bounce, 1 VP-P step @ 1.0VPP output, < 0.1 degrees
Chrominance to Luminance Delay @ 2.0VPP output, < 0.2 degrees
Input to Output Delay NOTE: 1.0VPP input, 3.58 or 4.43 MHz
K factor -60dBV min.
A.C. coupled option, < 1.5%
A.C. coupled option, 0.4 V peak
< 0.3%
16 ns
T pulse, < 0.5%

POWER INPUT

Voltage +15 V DC @ 160 mA
-15 V DC @ 160 mA

FRONT PANEL CONTROLS

Level Adjustable
Frequency Response Mid and Hi frequency

ENVIRONMENTAL, OPERATING

Temperature -20 to +60 degrees C.
Humidity 0 to 95%

MECHANICAL

Size Standard 1.4" (35.6mm) Di-Tech module,
4½" (112mm) H, x 13" (330.2mm) D.
Weight 18oz. (510g) includes connector assembly
Connectors BNC type, UG1094/U

ORDERING INFORMATION

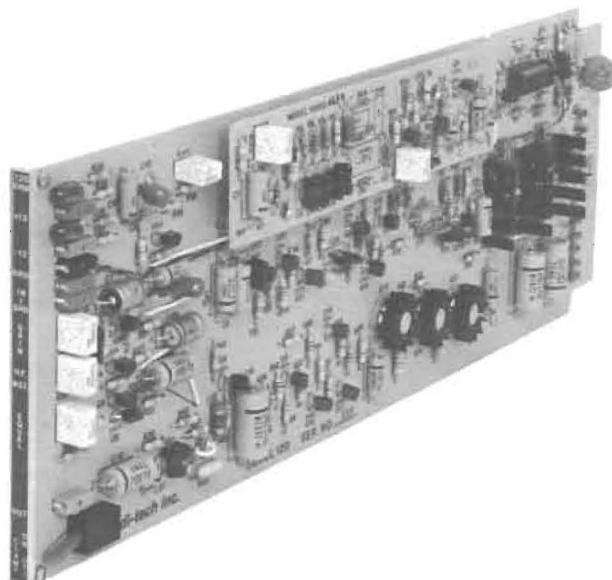
Horizontal Mount • order Model 110H with Frame Model 101
Vertical Mount • order Model 110V with Frame Model 103 and Model 801 power supply
Option 1 • A.C. coupled

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VIDEO D.A. WITH
DIFFERENTIAL INPUT
BACK PORCH CLAMPER
10 dB SLOPE EQUALIZER



MODEL 120

KEY FEATURES

- DIFFERENTIAL INPUT
- COMMON MODE REJECTION, -55 dB
- BACK PORCH CLAMPER, FAST OR SLOW
- OPTIONAL 10 dB SLOPE EQUALIZER
- 6 OUTPUTS
- 12 dB GAIN

380 w/o EQ
430 w. EQ

DESCRIPTION

The Model 120 is a 1-input, 6-output video distribution amplifier which features differential input, a switchable back porch clamper and an optional 10 dB cable slope equalizer.

On cable runs where common mode hum exists, the differential input minimizes this problem by at least 55 dB. The switchable clamper circuit will further reject hum by 30 dB and in addition the field tilt is reduced to within 0.1%. The clamping speed (fast or slow) can be altered quite simply by a plug-in strap located on the P.C. card.

The optional 10 dB 6 section cable equalizer is

continuously variable and easy to use. Only one adjustment is required and it is located on the front edge of the card. With the DI-TECH equalizer you do not require separate fixed equalizers for various lengths of cable. In addition an extender card is not required for making equalizer adjustments. The equalizer is a plug-in card which can be added in the field without the need for soldering.

The Model 120 is designed for mounting in the Model 101 frame which accepts up to 3 modules or the Model 103 frame which accommodates up to 10 modules.

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SPECIFICATIONS

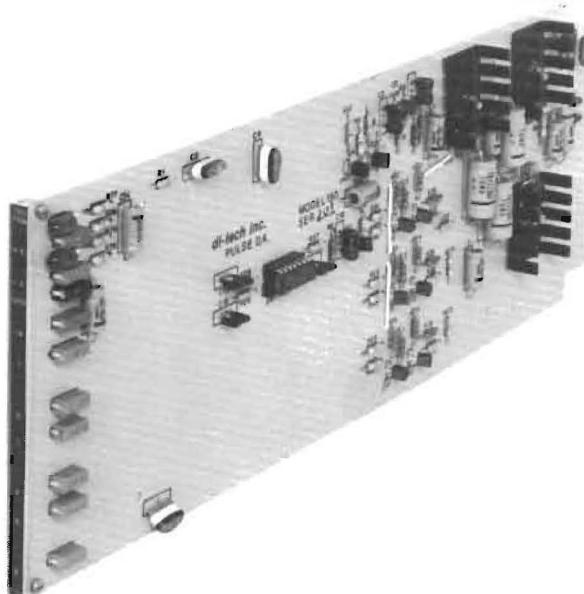
INPUT	
Type	Differential, floating
Impedance	Bridging, loop thru. Provision for terminating resistor.
Level	2 V p-p maximum
Return Loss	>45 dB @ 5 MHz, 26 dB @ 10 MHz
OUTPUTS	
Number	6, D.C. coupled
Impedance	75 ohm +1%
Isolation	>40 dB @ 5 MHz
Level	0.5 to 2 V p-p
Output D.C.	< 50 mV, clamp off. Back porch clamped to 0 V.D.C., with clamp on.
PERFORMANCE	
Frequency Response	+0.1 dB to 5 MHz +0.2 dB to 10 MHz +0, -2 dB to 20 MHz
Gain	-6 dB to +12 dB
Gain Stability	±0.05 dB, -20 to +60°C
Differential Gain	< 0.2% @ 1 V p-p out < 0.3% @ 2 V p-p out
Differential Phase	< 0.2° @ 1 V p-p out < 0.3° @ 2 V p-p out
Hum and Noise	-60 dB min. RMS noise to 1 V p-p (unity gain)
Field Tilt	< 0.1% clamp on < 0.8% clamp off
Line Tilt	< 0.2%, clamp on or off
Bounce, 1 V Step	No overshoot, clamp on. 0.2 v overshoot, 1.5 sec. time constant, clamp off.
Chrominance/Luminance	< 10 nsec., <.05 dB
Electrical Length	28 nsec.
K Factor	T pulse, <.5%
H.F. Boost	+4 dB @ 4.2 MHz
Common Mode Rejection	>55 dB @ 50/60 Hz
Common Mode Range	8 V p-p max.
CLAMPER	
Type	Back porch, no effect on color burst.
Hum Rejection	-30 dB min., 3 V p-p max. hum
Response	Internal jumper for "soft" clamping, approx. 12 line response time.
EQUALIZER (Optional)	
Type	6 section slope equalizer, continuously variable
Cable Type	8279, 8281, 9231, RG6A/U, RG11A/U, RG59B/U, WE724, WE728. (Other types available)
Range	6 dB @ 5 MHz, 10 dB @ 10 MHz. (1200' 8281, 750' 8279)
Accuracy	±.05 dB per 1.5 dB of cable loss @ 10 MHz. (.1 dB typ. for 500' of 8281)
POWER INPUT	
Voltage	+ and - 15 V.D.C. min.
Current	+ and - 180 ma. nom.
FRONT PANEL CONTROLS	
Potentiometers	Gain, H.F. boost, equalization
ENVIRONMENTAL, OPERATING	
Temperature	-20 to +60°C
Humidity	0 to 95%
MECHANICAL	
Size	Standard 1.4" (35.6mm) DiTech Module, 4½" h (112mm) x 13" d (330mm),
Weight	18 oz. (510g) including connector assembly
Connectors	BNC, female, UG1094/U
Mounting	Di-Tech Model 101 or 103 frame
ORDERING INFORMATION	
Without equalizer • order Model 120	
With equalizer • order Model 120EQ	
Horizontal Mount • order Model 120H or 120EQH with Frame Model 101	
Vertical Mount • order Model 120V or 120EQV with Frame Model 103 and Model 801 power supply	
Equalizer • order 10 dB @ 5 MHz or 10 dB @ 10 MHz	

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PULSE
DISTRIBUTION
AMPLIFIER



MODEL 150

FEATURES

- 6 OUTPUTS
- I.C. CIRCUITRY
- INPUT HUM UP TO 4.0 Vp-p, NO OUTPUT JITTER
- CONSTANT OUTPUT
- MAXIMUM STABILITY
- TEST POINTS, INPUT AND OUTPUT

DESCRIPTION

The di-tech **MODEL 150** pulse Distribution Amplifier is a precise device which utilizes the incoming pulse for time reference only and regenerates a pulse that is virtually free from distortion.

The input will accept up to 4.0 Vp-p hum with no jitter appearing on the 6 outputs. With input levels from 2 to 8 Vp-p, the output will remain constant at

4.0 Vp-p and the output rise and fall times are controlled and remain at 100 nano-seconds.

Front panel test points are provided for monitoring the input and outputs and each Pulse Distribution Amplifier has its own D. C. regulator.

The **150** utilizes the 101 frame for mounting up to 3 modules and with the 103 frame you can accommodate up to 10 modules.

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• Tel. 516 - 667-6300

SPECIFICATIONS

INPUT

Impedance 50k bridging, loop thru connectors
Level 2 to 8.0 Vp-p
Return Loss >40 dB @ 5.0 mHz
Hum 4.0 Vp-p maximum

OUTPUTS

Number 6
Impedance 75 ohm, source terminated
Isolation >40 dB @ 5 mHz
Level 4.0 Vp-p $\pm 0.3V$

PERFORMANCE

Rise and Fall Times 100 n sec ± 20 n sec
Tilt <1%
Ringing <1%
Noise -60 dB minimum
Delay 0.1 micro seconds

D. C. POWER

Voltage and Current +15 V.D.C. @ ma
-15 V.D.C. @ 150 ma

ENVIRONMENTAL, OPERATING

Temperature -20 to +60 degrees C
Humidity 0 to 95%

MECHANICAL

Size Standard 1.4" (35.6 mm) di-tech module,
4½" H (112 mm) x 13" D(330.2 mm)
Weight 18 oz. (510g). includes rear connector assembly.
Connectors - Video BNC, UG 1094/U
Mounting di-tech frame model 101 (accepts up to 3 modules)
or model 103 (accepts up to 10 modules)

ORDERING INFORMATION

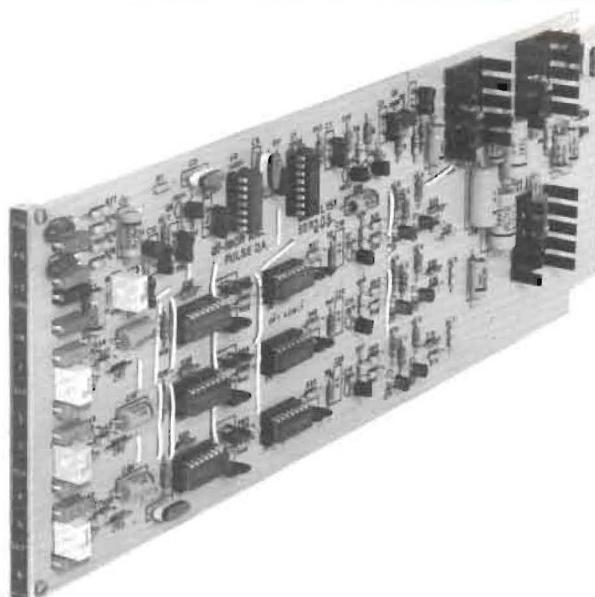
Horizontal Mount • Order Model 150H with 101 frame
Vertical Mount • Order Model 150V with 103 frame and 801 power supply

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PULSE DISTRIBUTION
AMPLIFIER WITH
VARIABLE DELAY



MODEL 151

OPTION "A" ILLUSTRATED

FEATURES

- I.C. CIRCUITS
- PULSE WIDTH ADJUSTMENT UP TO 0.5 MICRO SEC.
- HUM UP TO 4.0 Vp-p, NO OUTPUT JITTER
- 6 OUTPUTS
- ONE DELAY ADJUST FOR 6 OUTPUTS
- OPT. 3 DELAY ADJUSTS FOR 6 OUTPUTS

DESCRIPTION

8 325 09

The di-tech **MODEL 151** Pulse Distribution Amplifier is identical to the Model 150 Pulse D.A. except for the added features of adjusting the pulse width and pulse delay. The standard **151** has one delay adjustment for 6 outputs and the **151** Opt. A has one adjustment per 2 outputs thereby providing 3 delay controls.

The carefully controlled passive circuit and I.C. comparator allows for stable pulse delay and avoids

problems usually encountered with one shot multi-vibrators.

Front panel test points are provided for monitoring the input and outputs and each Pulse Distribution Amplifier has it's own D.C. regulator.

The **151** utilizes the 101 frame for mounting up to 3 modules and with the 103 frame, you can accommodate up to 10 modules.

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• Tel. 516 - 667-6300

SPECIFICATIONS

INPUT

Impedance 50K bridging, loop thru connectors
Level 2 to 8.0 Vp-p
Return Loss >40 dB @ 5.0 mHz
Hum 4.0 Vp-p maximum

OUTPUTS

Number 6
Impedance 75 ohm, source terminated
Isolation >40 dB @ 5.0 mHz
Level 4.0 Vp-p ±0.3V

PERFORMANCE

Rise and Fall Times 100 n sec, ±20 n sec
Tilt <1%
Ringing <1%
Noise -60 dB minimum
Delay Adjustable, 0.3 micro sec to 3.0 micro sec.
Delay Stability ±0.1 micro sec

FRONT PANEL CONTROLS

Delay Adjust Standard 151, one
Option A 151, three
Pulse Width One

D. C. POWER

Voltage and Current +15 V.D.C. @ 200 ma
-15 V.D.C. @ 200 ma

ENVIRONMENTAL, OPERATING

Temperature -20 to +60 degrees C
Humidity 0 to 95%

MECHANICAL

Size Standard 1.4" (35.6 mm) di-tech Module,
4½" H (112 mm) x 13" D (330.2 mm)
Weight 18 oz. (510g). includes
rear connector assembly.
Connectors - Video BNC, UG1094/U
Mounting di-tech frame Model 101 (accepts up to 3 modules
or Model 103 (accepts up to 10 modules)

ORDERING INFORMATION

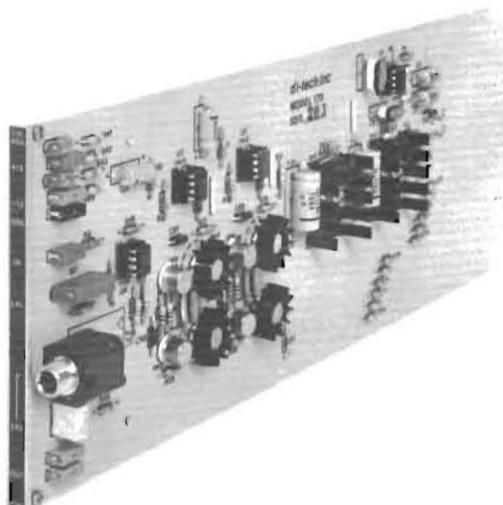
Model 151 H or V, one delay adjust
Model 151 H or V option A, three delay adjustments
Horizontal Mount • Order Model 151 H with 101 frame
Vertical Mount • Order Model 151 V with 103 frame and 801 power supply.

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AUDIO
DISTRIBUTION
AMPLIFIER



MODEL 170

KEY FEATURES

- 1 INPUT, 6 OUTPUTS
- HI-IMPEDANCE INPUT, BAL OR UNBAL
- .1% DISTORTION @ +18dBm OUTPUT
- ±20dB GAIN
- HEADPHONE JACK
- SCREW TYPE TERMINAL BLOCKS

DESCRIPTION

The Di-Tech **MODEL 170** audio D.A. features a 200K resistive input, balanced or unbalanced with six 600 ohm outputs. Output type is balanced, 600 ohm resistive buildout.

Maximum input level is +24dBm and maximum output level is +18dBm continuous. Distortion at these levels is 0.1% maximum. The 6 outputs are adjustable via a single control which is located on the front of the unit.

A unique feature of the **MODEL 170** is the front panel headphone jack. This jack permits a simple access to the audio D.A. for listening purposes whether it be for program identification or for trouble shooting purposes. The audio signal is not disturbed at all when utilizing the headphone set.

The audio D.A. is mounted into the Di-Tech 101 or 103 frame. The 101 accommodates 3 modules and the 103 mounts 10 modules.

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• Tel. 516 - 667-6300

SPECIFICATIONS

INPUT

Type Bridging, Balanced or Unbalanced
Impedance 200K, Resistive
Level +24dBm, Max.
Coupling A.C.
Common Mode Rejection -55dB

OUTPUT

Number 6
Type Balanced, Resistive Buildout
Impedance 600 ohms, others available
Level +18dBm Continuous
Noise -60dBm, -78dB Realative to Max. Output
Isolation Between Outputs -60dB
Coupling D.C., Less than 25m.v. on Output

TRANSFER CHARACTERISTICS

Gain ±20dB Continuously Adjustable
Common Mode Gain 0dB
Frequency Response ±.1dB, 5Hz to 50KHz
Total Harmonic Distortion 0.1% Max., 20Hz to 20KHz at +18dBm Output

HEADPHONE OUTPUT

Type STD. 1/4" Phone Jack
Impedance 600 ohms, Standard
Level Adjustable, Front Panel

D.C. POWER

Voltage ±15 V.D.C. Unregulated
Current ±30ma. Idle, ±90ma. Max.
Dissipation 1.2 watts Idle, 4 watts Max.

ENVIRONMENTAL, OPERATING

Temperature -20 to +60 degrees C.
Humidity 0 to 95%

MECHANICAL

Size Standard 1.4" (35.5mm) Di-Tech module,
4½" (112mm) H, x 13" (330.2mm) D.
Weight 18oz. (510g) includes connector assembly
Connector Terminal Block, Screw Type
Mounting Di-Tech Model 101 or 103 frame

ORDERING INFORMATION

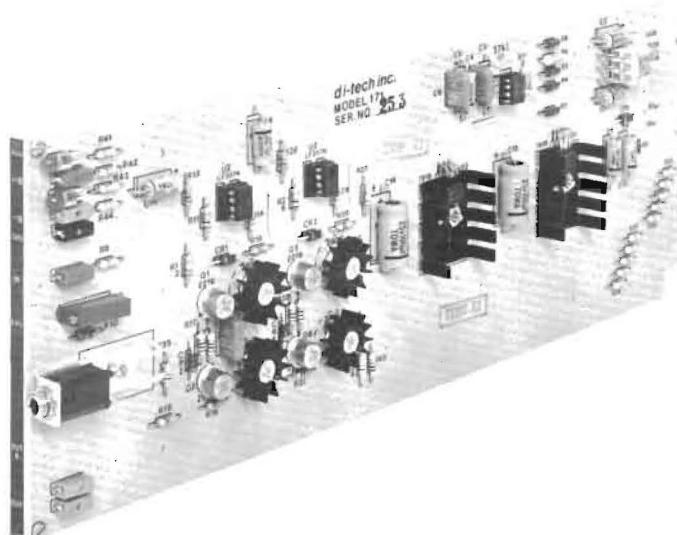
Horizontal Mount • order Model 170H with Frame Model 101
Vertical Mount • order Model 170V with Frame Model 103 and Model 801 power supply

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AUDIO
DISTRIBUTION
AMPLIFIER



MODEL 171

KEY FEATURES

- 1 INPUT, 6 OUTPUTS
- HI-Z INPUT, BAL OR UNBAL, +24dBm LEVEL
- .1% DISTORTION @ +18dBm OUTPUT
- MAXIMUM OUTPUT LEVEL +22dBm @ 600 OHM
- BANTAM JACK, 6TH OUTPUT, UP-FRONT
- 0 TO 40dB GAIN, ADJUSTABLE 2 RANGES

DESCRIPTION

The Di-Tech **MODEL 171** audio D.A. features a 200K resistive input, balanced or unbalanced with six 600 ohm outputs. Output type is balanced, 600 ohm resistive buildout.

Maximum input level is +24dBm when in the 20dB gain mode. When switched to the 40dB gain mode, the maximum input level is +4dBm.

The 6th output is conveniently located on the front of the unit. This allows re-routing of the audio thru

patch cords when the need arises. The output level for all outputs are controlled by a single multi-turn potentiometer located up-front.

Each **MODEL 171** includes its own input fusing and regulators thereby limiting a fault to that one module without affecting others in the frame.

The **171** audio D.A. mounts into the Model 103 frame which is 5 $\frac{1}{4}$ " H. and accepts up to 8 modules.

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• Tel. 516 - 667-6300

SPECIFICATIONS

INPUT

Type Bridging, Balanced or Unbalanced
Impedance 200K, Resistive
Level +24dBm @ 20dB gain mode
+4dBm @ 40dB gain mode
Coupling A.C.
Common Mode Rejection -55dB

OUTPUT

Number 5 from rear of unit
1 up-front (for patching purposes)
Type Balanced, resistive buildup
Impedance 600 ohms, other available
Level +22dBm continuous
Noise -65dBm @ 0dB gain
-55dBm @ 20dB gain
-45dBm @ 40dB gain
Isolation between Outputs -60dB
Coupling D.C., less than 25mV on output

TRANSFER CHARACTERISTICS

Gain 20dB position, adj. -2 to +22dB
40dB position, adj. +18 to +42dB
Frequency Response ±0.25dB, 5Hz to 20KHz
Total Harmonic Distortion < 0.1%, from 20Hz to 20KHz @ +18dBm
output, gain set @ 20dB
< 0.25%, from 20Hz to 20KHz @ +18dBm
output, gain set @ 40dB
< 0.3%, from 20Hz to 20KHz @ +22dBm
Clipping Point +22dBm

D.C. POWER

Voltage ±24 V.D.C., unregulated
Current ±60ma idle, ±200ma. max.
Dissipation 2.4 watts idle, 8 watts max.

ENVIRONMENTAL, OPERATING

Temperature -20°C to +60°C
Humidity 0 to 95%

MECHANICAL

Size Std. 1.4" (35.5mm) Di-Tech Module,
4½" (112mm) H, x 13" (330.2mm) D.
Weight 18oz. (510g) includes connector assembly
Connector (Rear) Terminal Block, Screw Type
Connector (Front) Bantam Jack
Mounting Di-Tech Model 103 frame

ORDERING INFORMATION

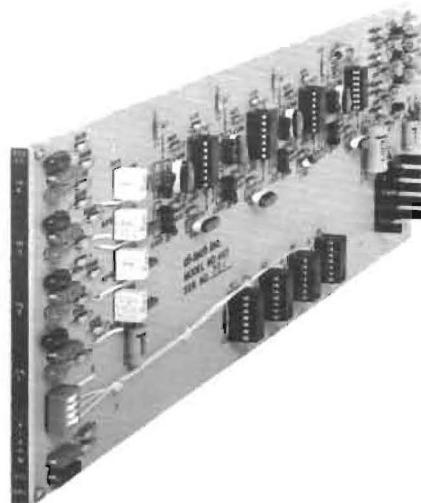
Vertical Mount • order Model 171V with frame Model 103
and Model 802 power supply.

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VIDEO
PRESENCE
DETECTOR



MODEL 402

KEY FEATURES

- 4 BRIDGING INPUTS PER CARD
- 12 VIDEO INPUTS PER 1 $\frac{3}{4}$ " FRAME
- 40 VIDEO INPUTS PER 5 $\frac{1}{4}$ " FRAME
- THRESHOLD CONTROL, 10 TO 40 IRE UNITS OF SYNC
- 4 ALARM SWITCHES PER CARD
- EXTERNAL ALARM OUTPUTS

The Di-Tech Video Presence Detector utilizes a unique input circuit that is sharply tuned to pass only the horizontal line rate of the composite video input. In addition, the circuit is also level dependent thereby providing the user with a true indication of presence or absence of video.

The **MODEL 402** provides for 4 bridging loop thru inputs and 4 alarms. Each detector has its own alarm circuit, thereby permitting an individual alarm for each video input. The on-board alarm light is illuminated and separate external relay outputs are provided.

The features for the **MODEL 402** are: (1) there are 4 front panel switches which individually engage or disengage the alarm circuits. (2) an adjustment is provided for each detector in order to adjust the threshold level from 10 to 40 IRE units of sync. (3) with the 101 frame you can monitor up to 12 inputs and the 103 frame can accommodate up to 40 inputs.

The Video Presence Detector is adaptable to a wide variety of applications, such as; simultaneous monitoring of all video inputs to large A/V routing switchers, security surveillance systems, monitoring remote feeds and controlling remote equipment on/off.

di-tech inc.

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• Tel. 516 - 667-6300

SPECIFICATIONS

INPUT, COMPOSITE VIDEO

Number Four, Bridging, loop thru connectors
Return Loss 45 dBmin. @ 5 mHz
Level 2 V p-p max.
Line Rate 15 KHz to 16 KHz (others on special order)

ALARM OUTPUT

Response Time 10 msec. nominal, can be increased to 3 seconds.
Contact Type Normally open, isolated (Form A)
Contact Rating 10 V.A. max., 100 volts max., .25 Amps. max.

NOISE IMMUNITY

Random Noise 2 V p-p
Hum 10 V p-p, 10-120 Hz
High Frequency 5 Vp-p min., .5 to 50 mHz

THRESHOLD CONTROL

Adjustable from 10 to 40 IRE units of sync.
(Accessable from front of unit)

FRONT PANEL CONTROL

4 alarm switches

D.C. POWER

Voltage 15 to 30 V.D.C.
Current 75 ma. nominal

ENVIRONMENTAL, OPERATING

Temperature -20 to +60 degrees C.
Humidity 0 to 95%

MECHANICAL

Size Standard 1.4" (35.6mm) Di-Tech module,
4½" (112mm) H, x 13" (330.2mm) D.
Weight 18oz. (510g) includes connector assembly
Connectors - Video BNC type, UG1094/U
Connectors - Alarm Terminal Block
Mounting Di-Tech Model 101 or 103 frame

ORDERING INFORMATION

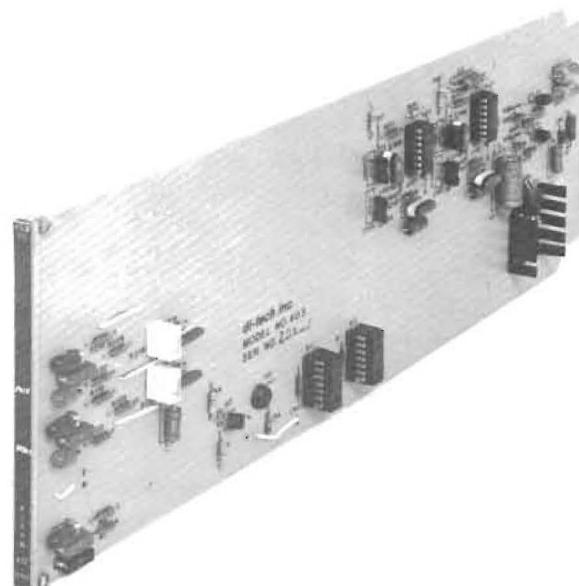
Model 402 • 4 inputs, 4 alarms
Horizontal Mount • order Model 402H with Frame Model 101
Vertical Mount • order Model 402V with Frame Model 103 and Model 801 power supply

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VIDEO PRESENCE DETECTOR
with Relay Switching



MODEL 403

FEATURES

- I.C. DETECTORS
- ON-BOARD LED STATUS INDICATORS
- RELAYS FOR EXTERNAL ALARMS
- AUTOMATIC RELAY SWITCHING
- SEPARATE DETECTOR FOR AUXILIARY INPUT
- 2 FORM C CONTACTS FOR BAL. AUDIO SWITCH

DESCRIPTION

The di-tech **MODEL 403** has been designed to be utilized at remote unattended areas where automatic video and audio switching is required when a failure occurs in the transmission system.

Two inputs are provided; one is for the program and the other is for the auxiliary backup composite video feed. Should the program feed fail, the on board video detector output would then trigger the relay to automatically switch to the auxiliary input. Normally the unit is factory set to switch after a 3 second failure but this can be easily altered by a simple component change. As this switch is taking place, an on-board LED failure indicator is illuminated and a separate relay is used for the external alarm. In addition, 2 form C contacts are provided for switching balanced audio.

A unique feature of the **403** is the separate video detector and alarm circuit for the auxiliary input. This added feature now allows the user to have simultaneous status on both program and auxiliary video inputs. With the model 101 frame, you can mount up to 3 modules.

di-tech inc.

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• Tel. 516 - 667-6300

SPECIFICATIONS

VIDEO INPUT (composite)

Number Two, program and auxiliary
Impedance 75 ohm, $\pm 1\%$
Level 2 Vp-p maximum
H Line Rate 15 KHz to 16 KHz
(others on special order)
Return Loss 40 dB, minimum

VIDEO OUTPUT

Number One, 75 ohm
Transfer Characteristics No degradation due to relay circuit

ALARM OUTPUTS (program and auxiliary)

Response Time 3 seconds nominal
(can be field changed)
Contact Type Form A, normally open, isolated
Contact Rating 10 V.A. max., 100 volts max., 0.25 amps max.

AUXILIARY OUTPUT (audio)

Contact Type 2 Form C (DPDT)
Contact Rating 115VAC od D.C.; 2 amps max.; 90 watts max.

NOISE IMMUNITY

Random Noise 2 Vp-p minimum
Hum 10 Vp-p, 10-120 Hz
High Frequency 5 Vp-p minimum, 0.5 to 50 mHz

D. C. POWER

Voltage 15 to 30 VDC
Current 150 ma, nominal

ENVIRONMENTAL, OPERATING

Temperature -20 to +60 degrees C
Humidity 0 to 95%

MECHANICAL

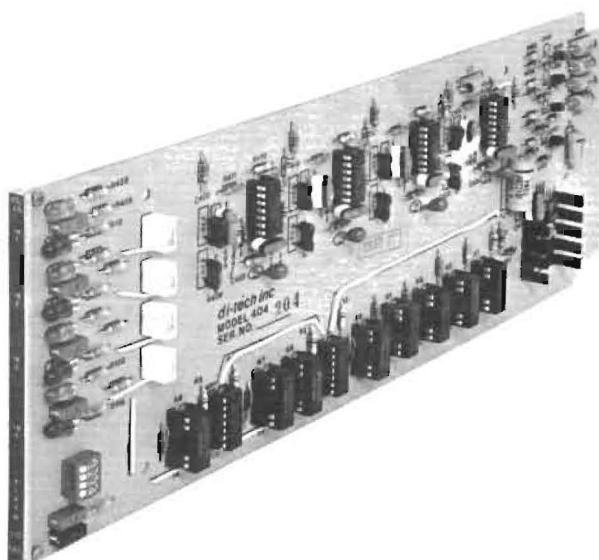
Size Standard 1.4" (35.6mm) di-tech module,
4½" (112mm) H. x 13" (330.2mm) D.
Weight 18 oz. (510g). includes
Rear Connector Assembly.
Connectors (video) BNC, UG1094/U
(alarm) 4 pin, circular type
(auxiliary) 7 pin, circular type
Mounting di-tech 101 frame

ORDERING INFORMATION

Model 403 with 101 frame

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MODEL 404

FEATURES

- 4 BRIDGING INPUTS PER CARD
- 2 RELAYS PER ALARM CIRCUIT
- ONE RELAY ELECTRONICALLY LATCHED
- ADJUSTABLE TIME DELAY CONTROL
- 12 VIDEO INPUTS PER 1 $\frac{3}{4}$ " FRAME
- 40 VIDEO INPUTS PER 5 $\frac{1}{4}$ " FRAME

DESCRIPTION

The Di-Tech **MODEL 404** video presence detector employs 4 separate sync detectors each with its associated relay alarm circuitry. The 4 inputs per card are hi-impedance bridging loop-thru.

When conditions are normal, a green on board LED is illuminated. Should a video loss occur, an on-board red LED is illuminated and 2 separate relays are provided for the external alarm. One relay is a form C type which closes or opens in a signal alarm condition. When video is present the relay automatically reverts to a normal condition. The second relay which is form A, is electronically latched and can only be reset by external control.

Each alarm circuit has an adjustable time delay control for establishing alarm priorities and switching logic. Delays can be set from 1 to 10 seconds.

The **MODEL 404** mounts into the 101 frame. The frame is 1 $\frac{3}{4}$ " high and accepts 3 modules. With this approach you can monitor up to 12 video lines.

For larger systems, the model 103 frame is utilized. This frame accommodates 10 modules and 40 video feeds are monitored in 5 $\frac{1}{4}$ " of rack space.

SPECIFICATIONS

INPUT, COMPOSITE VIDEO

Number Four, Bridging, loop thru connectors
Return Loss 45 dBmin. @ 5 mHz
Level 2 V p-p max.
Line Rate 15 KHz to 16 KHz (others on special order)

ALARM OUTPUT, PER DETECTOR

Response Time Failure, 1-10 seconds adjustable.
Video Return, 10 Msec. Nom.
Alarm Contacts 1 Form C (S.P.D.T.) Non-Latching
1 Form A (S.P.S.T.) Latching (Electronic)
Contact Rating 10 V.A. Max., 100 Volts Max.,
.25 Amps Max. (Reed)
Reset 1 External connection. Ground to
Reset all Latching Relays.
Relay Connections 1 Common for all 1 Form C Relays.
1 Common for all 1 Form A Relays.
N.O. and N.C. for each 1 Form C Relay.
N.O. for each 1 Form A Relay.

NOISE IMMUNITY

Random Noise 2 V p-p
Hum 10 V p-p, 10-120 Hz
High Frequency 5 V p-p min., .5 to 50 mHz

FRONT PANEL CONTROL

..... 4 alarm switches

D.C. POWER

Voltage 15 to 30 V.D.C.
Current 75 ma. nominal

ENVIRONMENTAL, OPERATING

Temperature -20 to +60 degrees C.
Humidity 0 to 95%

MECHANICAL

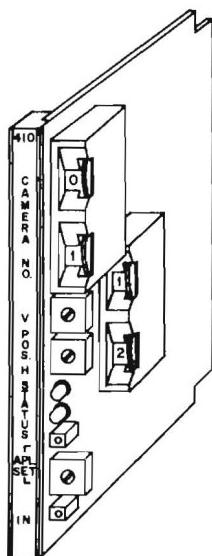
Size Standard 1.4" (35.6mm) Di-Tech module,
4½" (112mm) H, x 13" (330.2mm) D.
Weight 18oz. (510g) includes connector assembly
Connectors - Video BNC type, UG1094/U
Connectors - Alarm 15 pin male, Amp Hdp-20
Mounting Di-Tech Model 101 or 103 frame

ORDERING INFORMATION

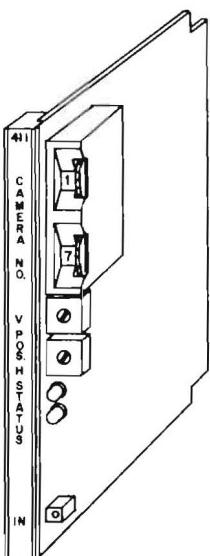
Horizontal Mount • Order Model 404H with Model 101 frame.
Vertical Mount • Order Model 404V with Model 103 frame and Model 801 power supply.

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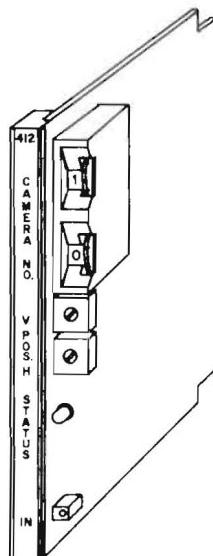
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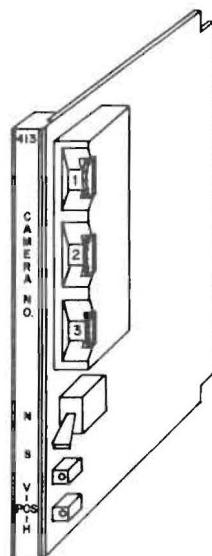
MODEL 410



MODEL 411



MODEL 412



MODEL 413

FEATURES

- Numbers are selected via thumbwheels
- Video loss alarms
- Numbers are added passively to video
- Vertical and horizontal positioning of numbers

DESCRIPTION

MODEL 410

The 410 detector and source identifier has circuitry for a sync detector, high and low level APL detectors, number generator and an internal sync generator. Four numbers are added passively to the incoming video source. When a sync failure occurs, the unit provides a video loss alarm and then switches over to its internal sync generator that delivers its own composite signal which only contains the four numbers.

MODEL 411

The 411 detector and source identifier contains circuitry for a sync detector, number generator and an internal sync generator. Two numbers are added passively to the incoming video. When a sync failure occurs, the unit provides a video loss alarm and then switches over to its internal sync generator that delivers its own composite signal which only contains the four numbers.

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MODEL 412

The 412 video source identifier contains only the circuitry for a 4-number generator. There are no detectors. This unit is totally dependent on the incoming video signal for viewing the 4 numbers.

MODEL 413

The 413 video source identifier contains circuitry for an alpha-numeric generator. This unit features a thumbwheel selector for 3 numbers and a two position switch for selecting one of two characters. There are no detectors on this unit and it is totally dependent on the incoming video signal.

SPECIFICATIONS

INPUT/OUTPUT

Level 1 VPP nom., 525H line composite video
Impedance High impedance loop thru
Characters Resistively added to video

ADJUSTMENTS

Sync detector 10 to 30 IRE units, models 410 and 411
Low APL detector 10 to 100 IRE units, model 410
High APL detector 90 to 120 IRE units model 410
Character level 10 to 30 IRE units models 410, 411, 412, & 413
Horizontal and vertical ALL MODELS

SYNC GENERATOR RS 170, model 410 and 411

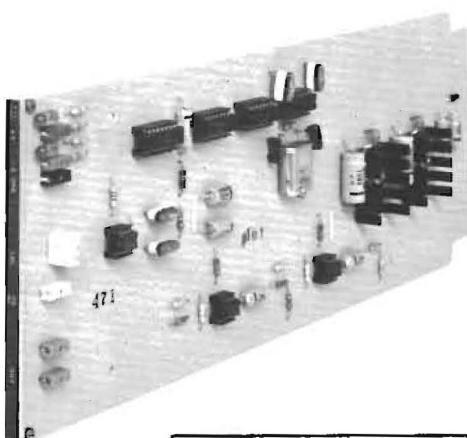
CHARACTER SIZE 25 lines per field, models 410, 411, 412
9, 18, or 27 lines per field, model 413

MECHANICAL

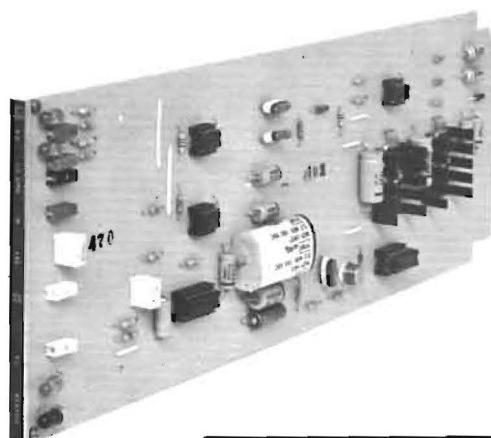
Size 4½" H x 13" D.
Connectors BNC for video, screw type terminal block for alarms
Mounting up to 3 modules in the 101 frame
up to 10 modules in the 103 frame +801 supply

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MODEL 470



MODEL 471

DESCRIPTION

The **470 tone generator** and **471 tone detector** are used to validate an audio transmission path. This path can be a twisted pair or an R.F. link. The 470 tone generator produces a sub-audible tone which is factory set in the frequency range of 20HZ to 100HZ. The frequency is then passively added to the program line and the output level is adjustable from -20 to -30 dBm. At the other end of the transmission path the 471 phase lock loop detector simply looks for the presence of the low frequency. Should a fault occur in the transmission path the detector will provide an on board LED failure light as well as a form A relay closure for driving an external alarm.

In addition to monitoring audio links, the 470/471 system can be utilized for other purposes, such as, controlling remote functions at unattended sites. The alarm relay on the 470 detector in this example is used as a control relay instead of an alarm relay. By merely turning the 471 tone generator on or off the system then performs as a remote controlled device.

The 470 and 471 can be mounted in either the 101 or 103 frame assemblies. The 101 mounts up to 3 modules horizontally and the 103 frame accepts up to 10 vertical modules plus the 801 plug-in power supply.

SPECIFICATIONS

TONE FREQUENCY:

20Hz to 100Hz, factory preset, crystal controlled

FREQUENCY STABILITY:

±.005%

470 OUTPUT IMPEDANCE:

Balanced, 40K source impedance

471 INPUT IMPEDANCE:

Balanced, 100K

MAX. PROGRAM LEVEL:

+24dBm

RELAY OUTPUT:

10V.A. max, 100V. max, .25A. max

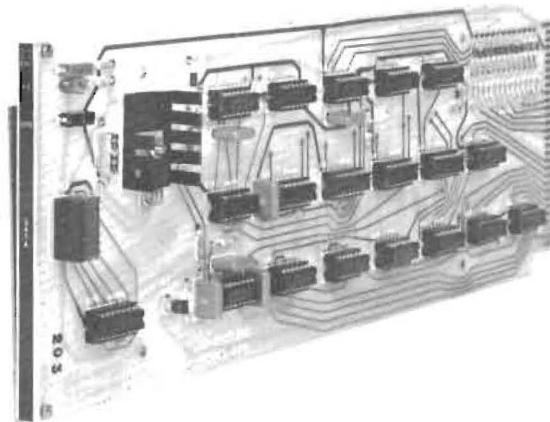
D.C. INPUT:

±10 to 25 VDC

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**MODEL 578****KEY FEATURES**

- FRONT PANEL NUMERICAL READOUT
- REMOTE CONTROL 5800/5840 SWITCHER
- BCD ENCODED OUTPUT
- 4 DIGIT CODING, 100 x 100 CONTROL

DESCRIPTION

The 587 is utilized in applications when remote access to the 5800/5840 routing switcher is required via the telephone lines or via an RF link with sub carrier. The standard telephone touch pad is used for selecting the output and then the input.

The Model 578 X-Y Tone Encoder must be used in conjunction with the Model 570 Tone Decoder. The Model 578 takes the one of twelve outputs from the 570 and formats them into a 16 bit BCD word. This 2 BYTE word is used to drive the X-Y input of the 5840 routing switcher. It may also be used to

drive the 5810 (X-Y interface) for the 5800 routing switcher.

This card also features a numerical readout located on the front of the card which indicates the numbers as they are entered. The output numbers are entered first followed by the "*". The input numbers are then selected followed by the "*" which enters the numbers, and generates a take pulse to the switcher. The whole procedure is performed over the phone line from a remote location.

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SPECIFICATIONS

INPUT 1 of 12 outputs from 570 card

OUTPUT 16 bit BCD

DC INPUT

Input Voltage..... +18V DC regulated

Input Current..... 200 MA (max)

MECHANICAL

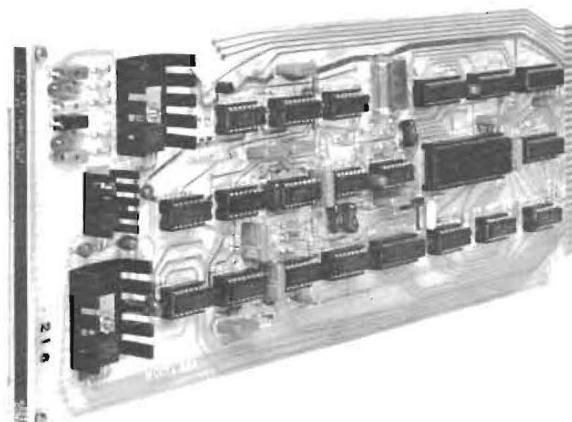
Size..... 13" (330.2 mm) D x 4½" (112 mm) H

Weight 7.4 oz. (210.2 g)

Mounting..... Di-Tech model 101 or 103 frame

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**MODEL 584**

KEY FEATURES

- STANDARD RS 232 INPUT/OUTPUT, 1200 BAUD STD.
- PARALLEL DATA IN, SERIAL DATA OUT
- SERIAL DATA IN, PARALLEL DATA OUT.

DESCRIPTION

The Model 584 converts parallel data to the standard RS 232 format when used in the "Transmit" mode and in the "Receive mode" the unit receives the RS 232 and converts it back to the parallel format.

The Model 584 is factory set to operate at 1200 BAUD but other BAUD rates are available as an

option.

The Model 584 is used in applications where parallel data from the PACE computer must be converted to a serial format for transmission purposes. This card will also accept RS 232 serial data and convert it back to parallel data for purposes of controlling the 5800 and 5840 routing switchers.

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SPECIFICATIONS

TRANSMIT MODE

Input Parallel 8 bit BCD or binary
Output Standard RS 232 serial
Rate 1200 BAUD (standard)
2400, 4800 (optional)

RECEIVE MODE

Input Standard RS 232 serial
Output Parallel 8 bit BCD or binary
Rate 1200 BAUD (standard)
2400, 4800 (optional)

DC INPUT

Input Voltage ±20V DC unregulated
Current +225 MA (max)
-30 MA (max)

MECHANICAL

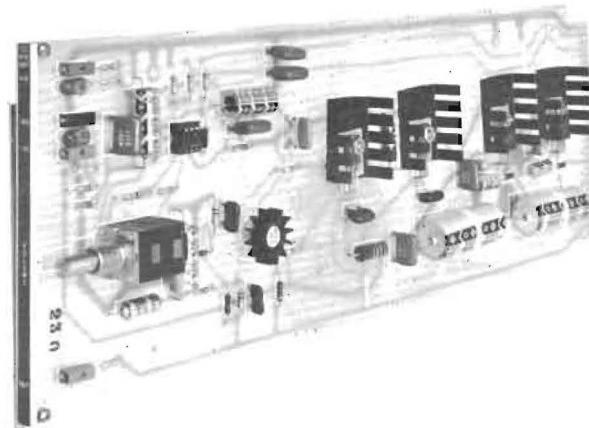
Size 13" (330.2 mm) D x 4½" (112 mm) H
Standard 1.4" (35.6 mm) Di-Tech module
Weight 12.5 oz. (353.2 g) includes connector assm.
Mounting Di-Tech model 101 or 103 frame

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10 WATT AMPLIFIER



MODEL 723

KEY FEATURES

- 10 WATT RMS OUTPUT
- < 1% THD
- ON BOARD VOLUME CONTROL
- 30 Hz TO 20kHz FREQUENCY RESPONSE

DESCRIPTION

The DI-TECH Model 723 Audio Amplifier features a 100K ohm balanced resistive input, with a single output capable of delivering 10 watts rms power into an 8 ohm load with less than 1% total harmonic distortion.

The Model 723 also features an easy access front panel volume control to set the speaker output level. Front panel test points are also supplied to monitor voltages and output level.

The Model 723 Audio Amplifier can be mounted in a model 101 frame for up to 3 modules, or in a model 103 frame for up to 10 modules.

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SPECIFICATIONS

INPUT

Type Balanced
Impedance 100k, resistive
Level ±20 dBm
Coupling A.C.

OUTPUT

Level 10 watts rms
THD < 1% @ rated output
Frequency Response 30 Hz to 20 KHz ± 1 dB
S/N -55 dBm min.

DC POWER

Voltage ±24 V.D.C., unregulated
Current (Idle) ±25 mA
Current (Max. Output) ±300 mA

MECHANICAL

Size 4½" (112mm) H x 13" (330.2mm) D
Weight 13.2 oz. (375g) including ID strip & shield
Mounting di-tech model 101 or 103 frame

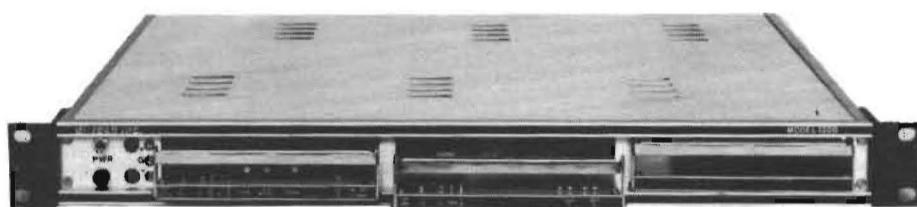
ORDERING INFORMATION

Specify 723H for horizontal mount (101 frame)
723V for vertical mount (103 frame)

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MODEL 1200



KEY FEATURES

- SWITCHABLE 75/124 OHM INPUT
- FLAT GAIN, 12dB
- ADJ. EQUALIZATION UP TO 10dB
- PLUG-IN MODULES
- 2/75 OHM AND 1/124 OHM OUTPUTS
- BACK PORCH CLAMP, FAST OR SLOW

DESCRIPTION

The Model 1200 is a versatile unit that eliminates many problems caused by lengthy 75 ohm or 124 ohm cable runs. The backporch switchable clumper attenuates hum and field tilt by at least 30dB. The differential input reduces common mode hum caused by ground loops by at least 55dB. In applications where microwave ringing occurs, the unit is easily converted over to a SOFT clamping action via a strap that is conveniently located on the Model 120 plug-in module.

The six section slope equalizer is continuously variable from 0 to 10 dB@ 4.5MHz or 10.0MHz with a single front panel control. The equalizer is

switchable between 75 ohms and 124 ohms and the location of the slide switch is on the rear panel. Post or pre-equalization is easily accomplished with the Model 1200.

The flat gain range of the unit is -6 to +12dB and the control is continuously adjustable. This control is located on the front edge of the module.

The 1200 is normally supplied to function with a nominal input of 115VAC. Should the need arise for DC operation, this unit can be furnished to operate at ± 24 or ± 48 VDC. DC operation is an optional feature.

ADDRESS: 311 Wyandanch Ave., North Babylon, N.Y. 11704 • TEL. NO. (516) 643-4040



MODEL 1200 REAR VIEW

SPECIFICATIONS

INPUT

Type Differential, floating
Impedance Self-terminating, switchable 75/124 OHM
Level 2 V p-p maximum
Return Loss >45 dB @ 5 MHz, 26 dB @ 10 MHz

OUTPUTS

Number 2 @ 75 OHM, 1 @ 124 OHM
Isolation >40 dB @ 5 MHz
Level 0.5 to 2 V p-p
Output D.C. <50 mV, clamp off. Back porch clamped to 0 V.D.C., with clamp on. (75 OHM output only)

PERFORMANCE

Frequency Response ±0.2 dB to 5 MHz
Gain ±0.4 dB to 10 MHz
Field Tilt +0, -2 dB to 20 MHz
Line Tilt -6 dB to +12 dB
Bounce, 1 V Step <0.2%, clamp on or off
Chrominance/Luminance No overshoot, clamp on.
K Factor 0 overshoot, 1.5 sec. time constant, clamp off.
H.F. Boost <10 nsec., .05 dB
Common Mode Rejection T pulse, .5%
Common Mode Range +4 dB @ 4.2 MHz
Hum and Noise >55 dB @ 50/60 Hz
Gain Stability <0.3% typical, 0.5% max.
Differential Gain <0.3% typical, 0.5% max.
Differential Phase <0.3% typical, 0.5% max.
Field Tilt -60dB min. RMS noise to 1 V p-p (unity gain)
Line Tilt <0.2% clamp on
Bounce, 1 V Step <1.0% clamp off
Field Tilt <0.2%, clamp on or off
Line Tilt No overshoot, clamp on.
Bounce, 1 V Step 0 overshoot, 1.5 sec. time constant, clamp off.

CLAMPER

Type Back porch, no effect on color burst.
Hum Rejection -30 dB min., 3 V p-p max. hum
Response Internal jumper for "soft" clamping, approx. 12 line response time.

EQUALIZER (Optional)

Type 6 section slope equalizer, continuously variable, switchable 75/124 OHM
Cable Type 8279, 8281, 9231, RG6A/U, RG11A/U, RG59B/U, WE724, WE728 or 16PEVL
Range 10 dB @ 4.5 MHz or 10 dB @ 10 MHz
Accuracy ±.05 dB per 1.5 dB of cable loss @ 10 MHz. (±.1 dB typ. for 500' of 8281)

POWER INPUT

Voltage 115VAC ±10%, 36V.A
230VAC available, specify on order

FRONT PANEL CONTROLS

..... Gain, H.F. boost, equalization, clamp on/off

ENVIRONMENTAL, OPERATING

Temperature -20 to +60°C
Humidity 0 to 95%

MECHANICAL

Size 1.75" H. (44.5mm) x 19" W (483mm) x 16.25" D (413mm)
Weight 9 LBS (4.1 KGS)
Connectors UG1094/U, UG422/U

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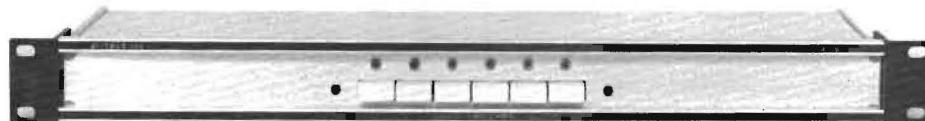
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PASSIVE VIDEO SWITCHER
NON-ILLUMINATING BUTTONS

MODEL 5106

MODEL 5112



KEY FEATURES

■ FRONT PANEL VIDEO TEST POINTS

■ CROSSTALK-70db minimum.

DESCRIPTION

The model 5106 GAP video switcher has been designed for applications where low cost switching is required, such as; test signal selection, monitor input selection and closed circuit distribution.

The 5106 is provided in a 6 x 1 configuration and utilizes high quality switches with silver plated contacts. The selected input is fed to the output and other inputs are automatically terminated.

Test points are provided on the front panel for purposes of verifying the video inputs and levels.

SPECIFICATIONS

ELECTRICAL

Input impedance • 75ohms ±1%.
Crosstalk • -70db minimum @ 5MHz.
Transfer characteristics • No degradation due to passive nature.
Outputs • 1, equal to source impedance.

MECHANICAL

Size: 1 $\frac{3}{4}$ "H. (44mm), 19"W. (483mm), 5"D. (127mm).
Mounting: Standard E.I.A., 19" rack mount, 1 RU.
Weight: 4 lbs. (2Kg).
Connectors: BNC female

ORDERING INFORMATION

Model 5106 for 6 Inputs
Model 5112 for 12 Inputs

di-tech inc.

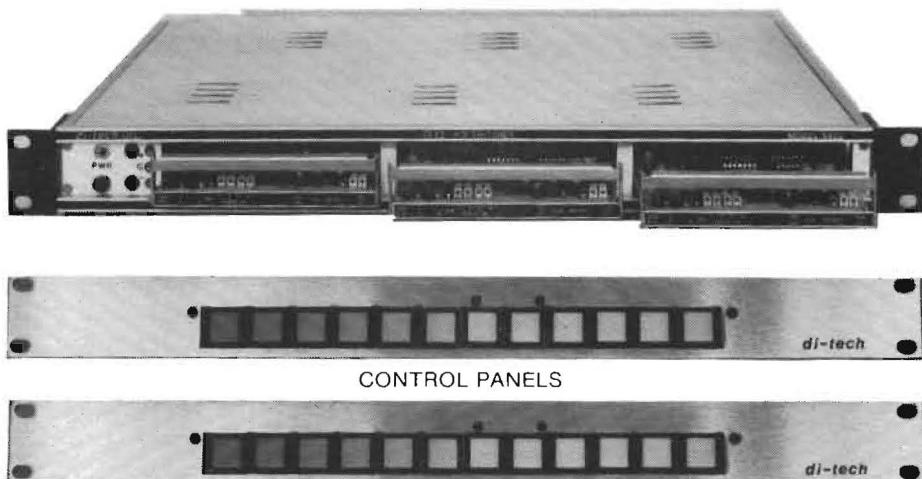
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• Tel. 516 - 667-6300



AUDIO FOLLOW VIDEO ROUTING SWITCHER

MODEL 5400



KEY FEATURES

- SOLID STATE SWITCHING, AUDIO AND VIDEO
- MATRIX SIZE: 12x2, 8x2 or 4x1
- VERTICAL INTERNAL SWITCHING
- 20 MHZ BANDWIDTH
- OPTIONAL RELAY OUTPUTS
- REMOTE CONTROL FLEXIBILITY

DESCRIPTION

The DI-TECH Model 5400 remote controlled audio follow video routing switcher has been designed to offer the user a quality distribution system at an economical price.

The electronics is housed in a 1.75 inch frame or 5.25 inch frame and a choice of matrix size is provided, they are; 12x2, 8x2 or 4x1. Video switching is vertical interval and in the absence of vertical drive, switching reverts automatically to random.

Video inputs are bridging loop thru, high impedance. Output expansion is easily accomplished by looping thru the inputs until the desired output number is achieved. Typically, you

can expand the output configuration up to 12 before requiring video DA's.

The Model 504 plug-in P.C. switching card contains all the electronic circuits for the video, audio, control, latching and optional tally. The Model 101 frame is pre-wired at the factory for a 12x2 configuration, thereby permitting a truly simple input expansion by purchasing just the 504 switching card.

Variations in methods of control are available and they are; Illuminated momentary pushbuttons, thumbwheel and take button with or without readout or touch tone®. For touch tone® control see DI-TECH data sheet Model 5700.

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MODEL 5400 REAR VIEW

MODEL 5400 SPECIFICATIONS

INPUT, VIDEO

Impedance	20 k bridging, loop thru connectors
Return Loss	> 40 dB @ 5 MHz, 20 dB @ 20 MHz
Level.....	2 V p-p max.
Vertical Drive.....	Hi-z loop thru (only required for V. I. switching)

OUTPUTS, VIDEO

Impedance	75 ohms, ±1%
Number	2 outputs per buss, D.C. coupled
Level.....	2 V p-p
Gain	unity, ±3 dB adj.
Gain Stability.....	±0.1 dB, -20 to +60 degrees C

PERFORMANCE, VIDEO

Frequency Response	±0.1 dB to 5 MHz ±0.2 dB, 5 MHz to 12 MHz +0, -2 dB, 12 MHz to 20 MHz
Crosstalk.....	-60 dB typical @ 4.5 MHz, -54 dB worst case
Differential Gain	@ 1 V p-p output < 0.3% @ 2 V p-p output < 0.5%
Differential Phase.....	@ 1 V p-p output < 0.3 degrees @ 2 V p-p output < 0.4 degrees
Hum and Noise.....	-60 dBv min. < 0.3% max.
Field Tilt, 50 or 60 Hz	0.1 V peak max.
Bounce, 1 V p-p Step	< 10 ns, 3.58 or 4.43 MHz
Chrominance to Luminance Delay	T pulse, < 0.5%
K Factor	< ±0.5 degrees
Differential Delay	21 nanoseconds, nom.
Electrical Length	< 0.5 microseconds
Switching Time.....	

PERFORMANCE, AUDIO

Input.....	50 k bridging, balanced
Input Level	+20 dBm max.
Frequency Response	±0.25 dB max., 20 Hz to 20 KHz
Total Harmonic Distortion.....	< 0.5% @ rated output
Noise	> -80 dB
Gain	unity, ±10 dB adj.
Crosstalk.....	-65 dB, 20 Hz to 20 KHz
Output	1, 600 ohm balanced
Output Level	+18 dBm max.
Switch Type	Integrated Circuit
Common Mode Rejection	-55 dB min., 20 Hz to 1 Kz

TALLY (OPTIONAL)

Single Level, XY	
1 common per output	
12 Normally open inputs	
Reed Relays	
Contact Rating	10 V.A. max. 100 volts max., .25 amps max.

A.C. INPUT

115/230 volts ±10%, 60 watt max.

MECHANICAL

Dimensions	1.75"H(44.5mm), 19"W(483mm), 16.25"D(413mm)
Connectors	Video, BNC type UG1094/U Audio, Tally and control, multi-pin connector

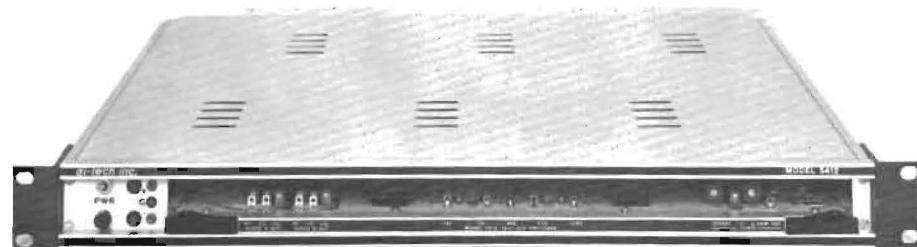
ORDERING INFORMATION

Horizontal Mount • order Model 504H with Frame Model 101
Vertical Mount • order Model 504V with Frame Model 103 and Model 801 power supply
Indicate Matrix Size: 12x2, 8x2, 4x1 or 4x3
Indicate Control Cable Length required, if in excess of 50 foot standard.
Indicate method of control.

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MODEL 5412



CONTROL PANEL

1,305.⁰⁰

KEY FEATURES

- 2 LEVELS OF AUDIO PER INPUT
- MATRIX SIZE: 12 x 1
- VERTICAL INTERVAL SWITCHING
- PLUG-IN P.C. CARD
- REMOTE CONTROL FLEXIBILITY
- WIDE BANDWIDTH

DESCRIPTION

The DI-TECH MODEL 5412 remote controlled audio follow video routing switcher has been designed to offer the user a compact quality distribution system at an economical price.

The electronics as illustrated is housed in a 1.75 inch frame and this compactness makes it extremely useful as an input selector for VTR's, small studios, ENG or mobile vans. The control panel has 12 illuminated momentary pushbuttons and the control cable normally supplied is 50 feet. Should longer lengths be required, please specify on your order.

The dual audio provision provides the user with an extra feature that is not normally supplied by most other switching manufacturers.

Should the future application be stereo, multi-

language or control codes, the 5412 can satisfy your requirements without adding an additional chassis in order to obtain that 2nd audio level.

Video inputs are bridging loop thru, high impedance. Output expansion is easily achieved by looping the inputs until the desired number of outputs is attained. Typically, you can expand the output configuration up to 6 before video DA's are required.

The Model 5412 contains a plug-in printed circuit card which contains all the circuitry for the video, dual audio control, latching and on board D.C. regulators. The AC supply is housed within the frame assembly. All integrated circuits are mounted in their own sockets and the I.C.'s are not soldered to the printed circuit card.

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MODEL 5412 REAR VIEW

1/24/87
Meet audio
multifun computers

MODEL 5412 SPECIFICATIONS

INPUT, VIDEO

Impedance	20 k bridging, loop thru connectors
Return Loss	> 40 dB @ 5 MHz, 20 dB @ 20 MHz
Level.....	2 V p-p max.
Vertical Drive.....	Hi-z loop thru (only required for V. I. switching)

OUTPUTS, VIDEO

Impedance	75 ohms, ±1%
Number	2 outputs per buss, D.C. coupled
Level.....	2 V p-p
Gain	unity, ±3 dB adj.
Gain Stability.....	±0.1 dB, -20 to +60 degrees C

PERFORMANCE, VIDEO

Frequency Response	±0.1 dB to 5 MHz
	±0.2 dB, 5 MHz to 12 MHz
	+0, -2 dB, 12 MHz to 20 MHz
Crosstalk.....	-60 dB typical @ 4.5 MHz, -54 dB worst case
Differential Gain	@ 1 V p-p output < 0.3% @ 2 V p-p output < 0.5%
Differential Phase.....	@ 1 V p-p output < 0.3 degrees @ 2 V p-p output < 0.4 degrees
Hum and Noise	-60 dBV min.
Field Tilt, 50 or 60 Hz	< 0.3% max.
Bounce, 1 V p-p Step	0.1 V peak max.
Chrominance to Luminance Delay	< 10 ns, 3.58 or 4.43 MHz
K Factor	T pulse, < 0.5%
Differential Delay	< ±0.5 degrees
Electrical Length	21 nanoseconds, nom.
Switching Time.....	< 0.5 microseconds

PERFORMANCE, AUDIO

Input.....	50 k bridging, balanced
Input Level	+20 dBm max.
Frequency Response	±0.25 dB max., 20 Hz to 20 KHz
Total Harmonic Distortion.....	< 0.5% @ rated output
Noise	> -80 dB
Gain	unity, ±10 dB adj.
Crosstalk.....	-65 dB, 20 Hz to 20 KHz
Output	1, 600 ohm balanced
Output Level	+18 dBm max.
Switch Type.....	Integrated Circuit
Common Mode Rejection	-55 dB min., 20 Hz to 1 Kz

A.C. INPUT

115/230 volts ±10%, 60 watt max.

MECHANICAL

Dimensions	1.75"H(44.5mm), 19"W(483mm), 16.25"D(413mm)
Connectors	Video, BNC type UG1094/U Audio, control and multi-pin connector (Type D)

ORDERING INFORMATION

Specify Model 5412

Indicate Control Cable Length required, if in excess of 50 foot standard.

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AUDIO ONLY
SWITCHER

MODEL 5413 - 12 x 3
MODEL 5414 - 36 x 1



CONTROL PANEL

h 705.00

KEY FEATURES

- FLEXIBLE MATRICES
12 x 1, 12 x 2, 12 x 3, 24 x 1,
36 x 1 or 3, 12 x 1
- OUTPUT LEVEL +18dBm STD.

- PLUG IN - CARDS
- BRIDGING INPUTS
- REMOTE CONTROL
- OPTIONAL +24dBm OUTPUT

DESCRIPTION

The **5413** can be wired to provide the variations in matrices mentioned in the above features. Each plug-in card represents a matrix of 12 x 1, therefore we can wire the rear connector assembly for a 12 x 3 configuration and when one card is installed, the unit becomes a 12 x 1. Install the second card and it's a 12 x 2 and the third card for a 12 x 3. Each output has its own output cable and one 12 x 1 control panel. This approach allows output expansion within the frame.

In order to achieve input expansion on the **model 5414** within the same frame the unit is wired

for a 36 x 1 configuration. With one card it's a 12 x 1, 2 cards, 24 x 1 and 3 cards for a 36 x 1. With this approach you can have up to 3 control cables and three 12 x 1 control panels.

The **5413** and **5414** have a standard output level of +18dBm into 600 ohms. As an option we can provide an output of +24dBm into 600 ohms.

The **5413** and **5414** plug-in cards and power supply are contained within a 1.75 inch x 19 inch rack mounted frame assembly. The control panels are 1.75 inch x 19 inch rack mounted and the momentary push buttons are illuminated.

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REAR VIEW MODEL 5413

MODEL 5413 SPECIFICATIONS

INPUT	Balanced, 50k bridging
INPUT DC COMPONENT	±10 V maximum
INPUT LEVEL	+20 dBm @ 600 ohm +26 dBm @ 150 ohm
COMMON MODE REJECTION	55 dB minimum, 20 Hz to 1 KHz
TOTAL HARMONIC DISTORTION	<0.5% @ +18 dBm (+24, +26 opt.) <.25% typical
FREQUENCY RESPONSE.....	±0.25 dB max., 20 Hz to 20 KHz
SIGNAL/NOISE RATIO	>80 dBm, 30 KHz weighted >98 dB below +18 dBm
GAIN	Unity, ±10dB, adjustable
CROSSTALK	>70 dB, 20 Hz to 20 KHz
OUTPUT	One, balanced
OUTPUT IMPEDANCE.....	600 ohms 100 ohms, Hi-level option
OUTPUT DC COMPONENT	0V, ±50 mv
OUTPUT LEVEL.....	+18 dBm into 600 ohms +24 dBm into 600 ohms, opt. +26 dBm into 150 ohms, opt.
CROSSPOINTS.....	Integrated circuit
MECHANICAL.....	5413 audio connector — screw type terminal block 5414 audio connector — type D multi-pin

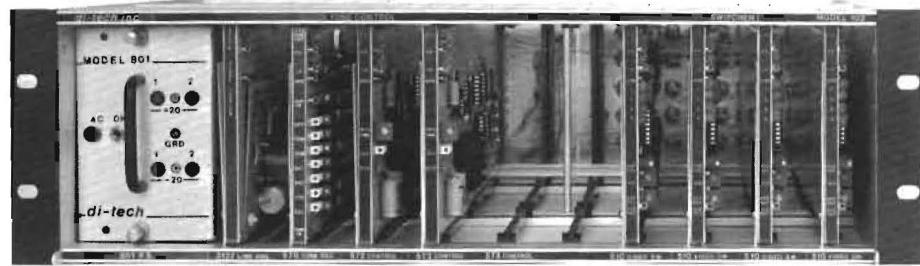
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MODEL 5470

4x4 SYSTEM ILLUSTRATED



KEY FEATURES

- TOUCH TONE CONTROL
- AUDIO, VIDEO OR AUDIO/VIDEO SWITCHING
- DIAL UP OR DEDICATED TONE ACCESS
- CONTROL UP TO A 4x4 MATRIX IN 5 1/4" OF RACK SPACE
- LED CROSSPOINT STATUS
- OPTIONAL RELAY OUTPUT CONTROL CARD

DESCRIPTION

The model 5470 system has been designed to simplify and minimize installation time of tone access-ed switching equipment at remote unattended sites.

This system includes all the necessary circuitry to control four independent 4x1 switching matrixes. The 4x1 matrixes are easily converted to a 4x4 matrix by externally adding looping cables on the inputs.

The 5470 consists of the model 3137A auto answer card along with a compression amplifier which compensates for variations in line levels. The model 570 decoder, decodes the two frequencies associated with each number on the touch tone encoder. The

model 572 control decoder accepts the output from the decoder and produces 12 high current PNP outputs which are then utilized for controlling the switching matrix on the 504 card. The switching card does contain its own latching circuitry.

The rear panel assembly is wired to accept an optional model 573 control card. This card is utilized for other control functions and is supplied with 12 momentary or latching relays.

Should an A.C. power failure occur at the unattended site, the system is designated to accept and diode switch to an external D.C. source.

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SPECIFICATIONS

PERFORMANCE, VIDEO

Frequency Response ±0.1 dB to 5 MHz

Crosstalk ±0.2 dB, 5 MHz to 12 MHz

Differential Gain +0, -2 dB, 12 MHz to 20 MHz

Differential Phase -60 dB typical @ 4.5 MHz, -54 dB worst case

Hum and Noise @ 1 V p-p output < 0.3%

Field Tilt, 50 or 60 Hz @ 2 V p-p output < 0.5%

Bounce, 1V p-p Step @ 1 V p-p output < 0.3 degrees

Chrominance to Luminance Delay @ 2 V p-p output < 0.4 degrees

K Factor -60 dBV min.

Differential Delay < 0.3% max.

Electrical Length 0.1 V peak max.

Switching Time < 10 ns, 3.58 or 4.43 MHz

PERFORMANCE, AUDIO

Input T pulse, < 0.5%

Input Level < 0.5 degrees

Frequency Response 21 nanoseconds, nom.

Total Harmonic Distortion < 0.5 microseconds

Noise PERFORMANCE, AUDIO

Gain Input 50 k bridging, balanced

Crosstalk Input Level +20 dBm max.

Output Frequency Response ±0.25 dB max., 20 Hz to 20 KHz

Output Level < 0.5% @ rated output

Switch Type > -80 dB

Common Mode Rejection unity, ±10 dB adj.

MODEL 570 TOUCH TONE DECODER

Input -65 dB, 20 Hz to 20 KHz

Impedance 1,600 ohm balanced

Level +18 dBm max.

Dynamic Range Integrated Circuit

Bandwidth -55 dB min., 20 Hz to 1 Kz

Stability

Response Time

Input Connector

MODEL 573 CONTROL DECODER (OPTIONAL)

Input Hi-Z, > 50K

Outputs 50 mV rms to 3 V rms, adjustable

573 ±6dB

573 Option A ±5%, F_o

Contact Rating ±1%, F_o

Output Duration 50 msec typical

Two Digit Timing Terminal Block

Output Connector

MODEL 3137A AUTOMATIC ANSWERING CARD

Ring Input Ring Input 80-130 V rms, 15 Hz to 130 Hz

Hold Time Adjustable, 10 sec. to 150 sec.

Input Impedance 600 Ohms

Output Impedance 600 Ohms

D.C. Input +15 V.D.C. @ 75 ma

Connector Terminal Block, Input

MODEL 575 TOUCH TONE ENCODER

Input 115/230 V.A.C., 50/60 Hz, 3 Watts

Output Impedance 600 Ohms

Output Level 1 V rms, nominal

Frequency Stability ±1.25%

Size 5 inches wide x 5 inches deep

MECHANICAL

Frame Size x 3 inches high. Sloped front panel

Connectors 5.25" H. (133mm), 19" W. (483mm)

A.C. INPUT 16.25" D. (413mm)

16.25" D. (413mm)

Video, BNC type UG1094/U

Audio, Multi-Pin

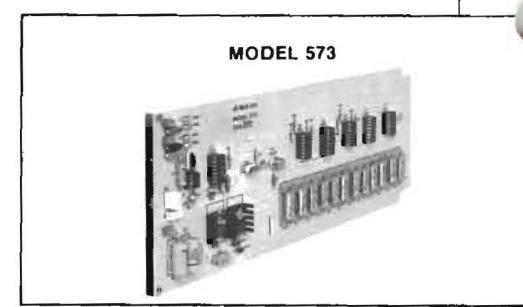
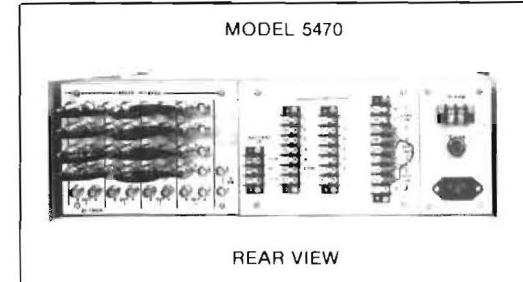
115/230 volts ± 10%, 60 watts

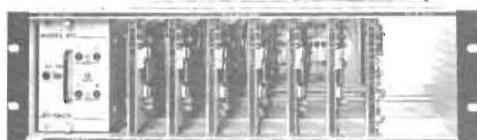
ORDERING INFORMATION

- Indicate whether Audio Only, Video Only or Audio/Video
- Matrix Size
- Opt. 573 Relay Card (momentary or latching)

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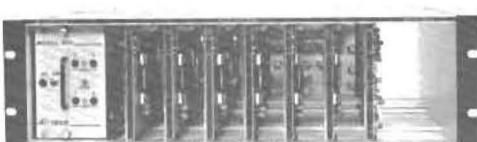
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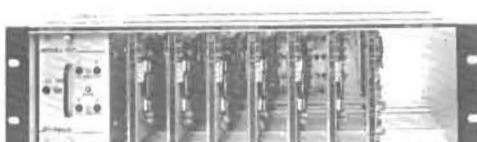
MODEL 5500

AUDIO FOLLOW VIDEO



MODEL 5501

VIDEO ONLY



MODEL 5502

AUDIO ONLY

(ALL ILLUSTRATIONS 24 X 2)

FEATURES

- UP TO 28 INPUTS BY 2 OUTPUTS PER FRAME
- VERTICAL INTERVAL SWITCHING (STD.)
- SOLID STATE SWITCHING, AUDIO AND VIDEO
- REMOTE CONTROL FLEXIBILITY
- LOOP THRU INPUTS
- PLUG-IN P.C. CARDS

DESCRIPTION

The Di-Tech series 5500, 5501 and 5502 Routing Switchers provide a compact approach to a simple and quick means of routing any input signal to any output buss without disturbing other inputs.

The standard control panels which house the momentary illuminated pushbuttons are located separately from the electronics. Should other means of addressing the switcher be required, you may utilize thumbwheel switches with readouts or Touch Tone® control (see Di-Tech Model 5700).

Inputs to the switcher are in groups of four and BNC type connectors are used for all inputs and outputs. Inputs are Hi-impedance, bridging and output expansion is easily accomplished by the loop thru

method. The switching pulse for video is Vertical Interval. This feature is standard with the models 5500 and 5501.

The audio switcher model 5502 employs screw type terminal blocks for all inputs and outputs. Switching is solid state and is accomplished by integrated circuits. Crosstalk is at least -65db and maximum output level is +18dbm.

An optional feature for the models 5500, 5501 and 5502 is the tally relay. Each time a crosspoint is taken a relay closure is provided for applications such as, camera tally, machine control or other control functions.

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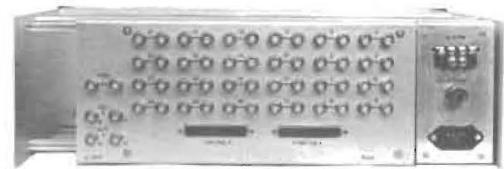
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ELECTRICAL SPECIFICATIONS

VIDEO

INPUT IMPEDANCE:	H1-z, bridging, 50dB RTL @ 4.5MHz
INPUT LEVEL:	2Vp-p Max.
OUTPUT IMPEDANCE:	75 ohms, 30dB RTL @ 4.5MHz
OUTPUT LEVEL:	2Vp-p Max.
OUTPUT ISOLATION:	30dB @ 4.5MHz
GAIN:	Unity, ±3dB Adj.
FREQUENCY RESPONSE:	±0.1dB to 5MHz; +0, -0.3dB to 8MHz; No Rise Above 8MHz
CROSSTALK:	-50dB @ 4.5MHz
DIFFERENTIAL GAIN:	0.5% @ 1Vp-p, Max.
DIFFERENTIAL PHASE:	0.5° @ 1Vp-p, Max.
HUM AND NOISE:	-65dBV min.
T PULSE TO BAR:	±0.1%
TILT, LINE:	0.1% Max.
TILT, FIELD:	0.3% Max., Field Sq. Wave
DIFFERENTIAL DELAY:	±0.5° Max.

MODEL 5501

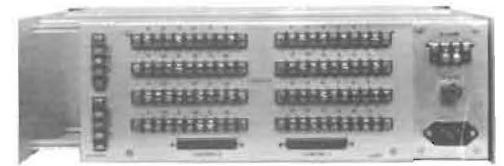


REAR VIEW

AUDIO

INPUT:	50K bridging, balanced
INPUT LEVEL:	+20dBm Max.
FREQUENCY RESPONSE:	±0.25dB Max., 20Hz to 20KHz
TOTAL HARMONIC DISTORTION:	< 0.5% @ rated output
NOISE:	> -80dB
GAIN:	Unity, ±10dB Adj.
CROSSTALK:	-65dB, 20Hz to 20KHz
OUTPUT:	1, 600 ohm balanced
OUTPUT LEVEL:	+18dBm Max.
SWITCH TYPE:	Integrated Circuit
COMMON MODE REJECTION:	-55dB min., 20Hz to 1Kz

MODEL 5502



REAR VIEW

MECHANICAL

FRAME SIZE	5.25" H. (133mm), 19" W. (483mm) 16.25" D. (413mm)
WEIGHT (28x2)	23 LBS.
CONNECTORS	
MODEL 5500	Video, BNC type. Audio, Multi-Pin
MODEL 5501	Video, BNC type
MODEL 5502	Audio, screw type terminal blocks

ORDERING INFORMATION

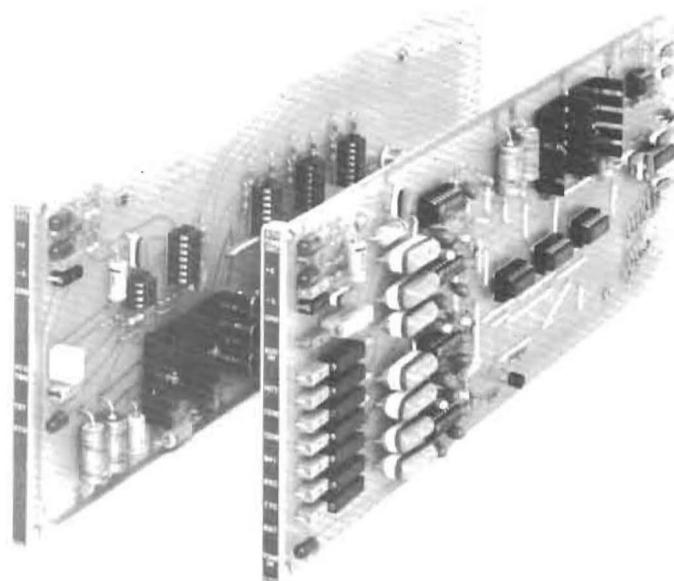
- INDICATE MODEL NUMBER AND INPUTS
- METHOD OF CONTROL

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TOUCH TONE®
CONTROL SYSTEM



MODEL 5700

MODEL 572

MODEL 570

KEY FEATURES

- CONTROLS 12 TO 144 FUNCTIONS
- PHASE LOCK LOOP CIRCUITRY
- CMOS I.C.'S
- HIGH CURRENT OR RELAY OUTPUTS
- STABILITY $\pm 1\%$, FO
- BANDWIDTH $\pm 5\%$, FO

DESCRIPTION

The Model 5700 series Touch Tone® Control System is designed for applications in controlling A/V routing switchers, pan and tilt functions for remote cameras, supervisory control systems, or any communication environment that requires control through use of the telephone lines, utilizing touch tone pads.

With this system, DI-TECH provides all the necessary functional p.c. cards with power supplies and frames to satisfy most requirements, thereby virtually eliminating the usual interface problems.

For example, the Model 570 Tone Decoder utilizes phase lock loop circuitry to detect the tones and CMOS I.C.'s to decode 2 of 7 tone frequencies into 12 low level outputs. Should high level outputs be required, you would then add the Model 572 Control Decoder Card which provides for strobe gating and 12 high current open collector driver outputs. If relay outputs are required, then you utilize the Model 573. This unit is the same as the Model 572 except for the relay outputs. Should more than 12 outputs be desired, then you simply add the 572 or 573 for up to 144 outputs.

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SPECIFICATIONS

MODEL 570 TOUCH TONE DECODER

Input	
Impedance	Hi -Z, > 50K
Level.....	50 mV rms to 3 V rms, adjustable
Dynamic Range	±6 dB
Bandwidth	±5%, F _o
Stability	±1%, F _o
Response Time	50 msec typical
Outputs	
Decoded Outputs.....	0 thru 9, # & *
Duration	(12) equal to tone input duration minus 50msec
Level.....	off, -5V; on, +5V sink 2ma; source, -0.9 ma
Tone Present Output Level	same as above
Tone Present Output Duration	30 msec. standard, up to 500 msec available.
D.C. Power.....	Delayed 10 msec from decoded output +15 V.D.C. @ 80 ma -15 V.D.C. @ 80 ma
Input Connector	Terminal Block

MODEL 572/573 CONTROL DECODER

Input.....	from Model 570
Outputs	12
572P	open collector PNP, -40 V.D.C. max. will sink 100 ma D.C. to gnd or +5 V.D.C.
572N.....	open collector NPN, +40 V.D.C. max. will sink 100 ma D.C. to gnd or -5 V.D.C.
573	normally open relay contact 1 common. (momentary)
573 Option A	magnetic latching relays
Contact Rating	10 V.A. max. 100 V max. 250 ma. max.
Output Duration	Same as Tone Present Output Duration from Model 570
Two Digit Timing	Time "Window" for 2nd Digit is adjustable from ½ sec. to 3 sec.
D.C. Power.....	+15 V.D.C. @ 30 ma -15 V.D.C. @ 30 ma
Output Connector	15 pin, D series (mate is supplied)

MODEL 575 TOUCH TONE ENCODER

Input.....	115/230 V.A.C., 50/60 Hz, 3 Watts
Output Impedance.....	600 Ohms
Output Level	1 V rms, nominal
Frequency Stability	±1.25%
Size.....	5 inches wide x 5 inches deep x 3 inches high. Sloped front panel

MODEL 3137A AUTOMATIC ANSWERING CARD

Ring Input	80-130 V rms, 15 Hz to 130 Hz
Hold Time.....	Adjustable, 10 sec. to 150 sec.
Input Impedance	600 Ohms
Output Impedance.....	600 Ohms
D.C. Input.....	+15 V.D.C. @ 75 ma
Connector	Terminal Block, Input

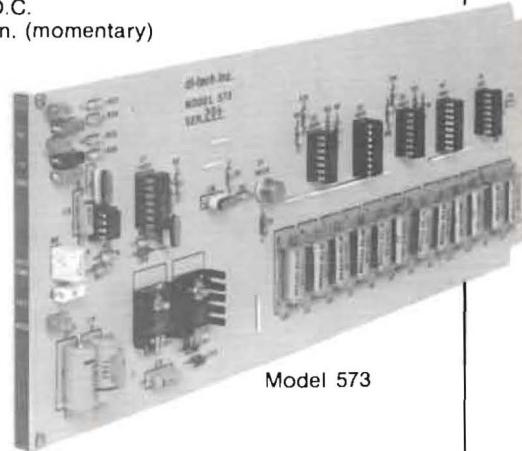
SPECIFICATIONS COMMON TO 570, 572, 573 AND 3137A.

Size.....	4½" (112mm)H, x 13" (330.2mm)D.
Temperature	-20 to +60 degrees C.
Humidity	0 to 95%

ORDERING INFORMATION

- A. Number of Outputs
- B. Open Collector Driver (572) or Relay Outputs (573)
- C. Encoder Pad (575)
- D. Automatic Answering Card (3137A) non-dedicated telephone line.
- E. Model 101 Frame can be used for up to 24 functions
- F. Model 103 Frame can be used for up to 144 functions

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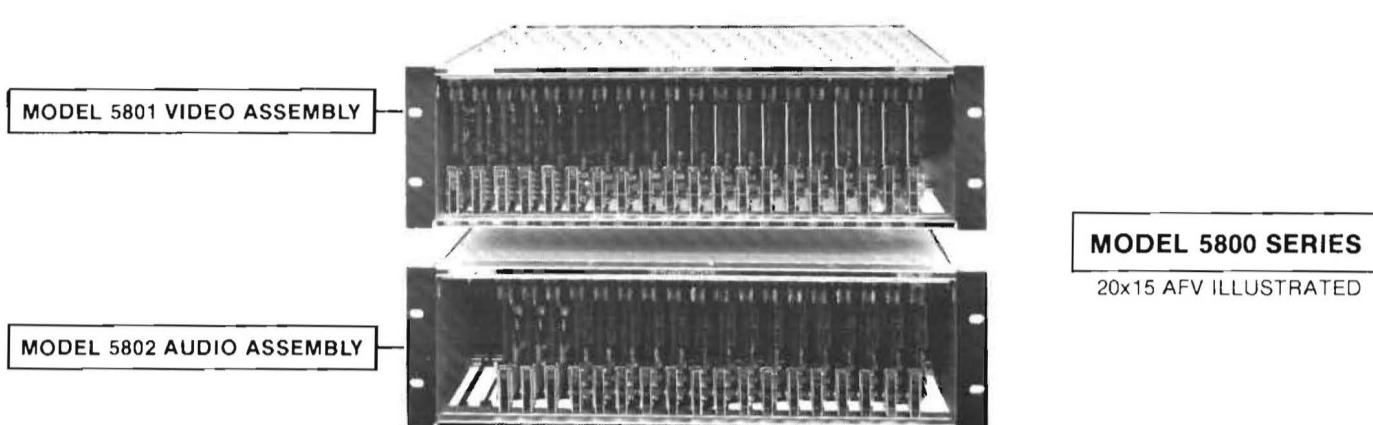


Model 573

di-tech inc.



AUDIO-VIDEO
VERTICAL INTERVAL
ROUTING SWITCHER



KEY FEATURES

- 20x15 AFV MATRIX, 10½" RACK SPACE
- 20x1 SWITCHING MODULES
- BCD PARALLEL CONTROL
- CROSSPOINT LATCH FEEDBACK TALLIES
- DIFFERENTIAL INPUT, AUDIO
- EXPANDABLE INPUTS AND OUTPUTS
- 3 LEVEL AUDIO SWITCHING, OPT.
- DC RESTORER FOR VIDEO INPUTS
- LED READOUTS, CROSSPOINTS STATUS, OPT.
- AUDIO BREAKAWAY, OPT.

DESCRIPTION

The **5800 series AFV routing switcher** employs separate frames to house the video and audio modules. A building-block approach is utilized in order to simply expand the inputs or outputs as future requirements change. Non-proprietary multi-source components are used throughout and there are no specialized single source items utilized in the system.

The audio and video switching modules contain 20 x 1 matrixies complete with output amplifiers. When the switching module is extracted from the frame you only effect those inputs to that one output buss. Other output busses are not effected. The video and audio matrix frames are arranged in a 20 input by 15 output format. Each frame occupies 5½ inches of rack space so for a 20 x 15 AFV matrix you only require 10½ inches of rack space. Each 20 x 1 video switching module contains an LED

numerical readout for crosspoint status. This is in addition to the tally feedback indicator on the control panel.

Control input and crosspoint tally return are in a bi-directional BCD format, therefore only eleven wires are required for the control cable. The basic capacity is 100 inputs and expansion beyond that requires additional control facilities. Various methods of control are (I) illuminated momentary pushbuttons (II) thumbwheel with take button and tally indicator (III) touch pad with preset and on-air indicators (IV) external computer or controller.

External power supplies are furnished with the system. The rack space for the supplies vary, depending on the matrix ordered. Dual power supplies and battery back-up systems for crosspoint memory are available as an option.

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SPECIFICATIONS

VIDEO

INPUT
75 OHM BRIDGING
INPUT RETURN LOSS
> 40dB @ 4.5 MHz
INPUT LEVEL
1VP-P NOM.
3VP-P MAX.
INPUT DC RESTORER
SYNC TIP (STRAPABLE)
SYNC INPUT
HI-Z LOOPTHRU, 2-8VP-P
BOUNCE (1V STEP)
TIME CONSTANT > 2 SEC., NO OVERSHOOT
GAIN
UNITY, -4dB to +6dB ADJ.
FREQUENCY RESPONSE
±0.1 TO 5.0 MHz
±0.25 5.0 MHz TO 10MHz
±0, -3dB 10.0 MHz TO 20MHz
DIFFERENTIAL DELAY
±1 DEGREE
DIFFERENTIAL GAIN
< 0.25% 10-90% APL, 3.58/4.43MHz
DIFFERENTIAL PHASE
< 0.25° 10-90% APL, 3.58/4.43MHz
T PULSE TO BAR RATIO
±0.1%
T PULSE K FACTOR
< 0.5%
ELECTRICAL LENGTH
44n SEC, ±1n SEC.
FIELD TILT
< 0.5%
CROSSTALK (WORST CASE)
> -70dB @ 15KHz
> -60dB @ 4.5MHz
SIGNAL/NOISE RATIO
> -65dBV
MAXIMUM SWITCHING STEP
5 IRE UNITS, MAX.
MAXIMUM SWITCHING TRANSIENT
< 10 IRE UNITS, MAX.
OUTPUTS
2 PER BUSS, 75 OHM SOURCE TERMINATED
OUTPUT RETURN LOSS
> 40dB @ 15KHz
> 30dB @ 4.5 MHz
OUTPUT LEVEL
1.0VP-P NOM., 3.0VP-P MAX.
DC ON OUTPUT
50mV, MAX.

AUDIO

INPUT
50K BRIDGING, BALANCED
INPUT DC COMPONENT
±10V MAXIMUM
INPUT LEVEL
+20dBm @ 600 OHM
+26dBm @ 150 OHM
COMMON MODE REJECTION
55dB MINIMUM, 20HZ TO 1KHZ
TOTAL HARMONIC DISTORTION
< 0.5% @ +18dBm
FREQUENCY RESPONSE
±0.25dB MAXIMUM, 20HZ TO 20KHz
SIGNAL/NOISE RATIO
> -70dBm
-88dB BELOW +18dBm
GAIN
UNITY, ±10dB, ADJUSTABLE
CROSS TALK
> 70dB, 20Hz TO 20KHz
> 60dB @ 100KHz
OUTPUT IMPEDANCE
600 OHMS BALANCED
150 OHMS AVAILABLE
OUTPUT DC COMPONENT
0V, ±50mV
OUTPUT LEVEL
+18dBm @ 600 OHM
CROSSPOINTS
INTEGRATED CIRCUIT

NOTES: (1) ALL VIDEO SPECIFICATIONS
ARE AT 1.0VP-P LEVEL
(2) ALL AUDIO SPECIFICATIONS
ARE AT +18dBm LEVEL

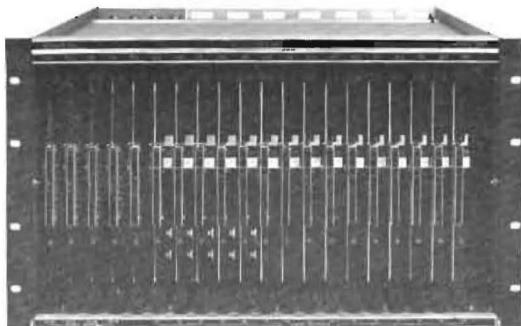
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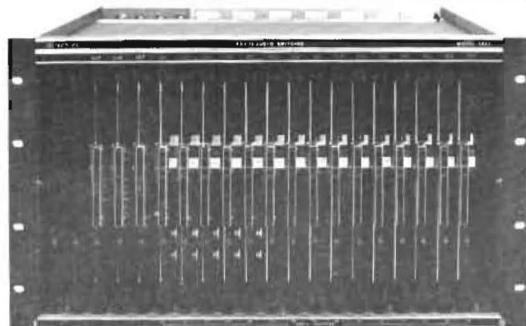
AUDIO-VIDEO VERTICAL INTERVAL ROUTING SWITCHER

MODEL 5840 SERIES



MODEL 5841 VIDEO ASSEMBLY

MODEL 5840 SERIES
40x15 AFV ILLUSTRATED
WITH 3 CHANNELS OF
AUDIO PER INPUT



MODEL 5842 AUDIO ASSEMBLY

FEATURES

- Input/output expansion
- Up to 3 audio levels per input
- Audio/video breakaway
- Vertical interval switching
- Parallel or serial control
- BCD parallel input port for computer control
- 40 x 15 AFV matrix in 21" rack space
- 40 x 1 crosspoint modules

DESCRIPTION

The **5840 series routing switcher** can be supplied in various configurations such as; audio only, video only or audio follow video. The audio components are housed in the 5842 frame assembly and the video is contained in the 5841 frame assembly. When interchassis control cables are installed, the system then becomes an audio follow video switcher.

Each frame as illustrated has the capacity to house up to a 40 x 15 matrix in 10½ inches of rack space. The audio follow video version requires 21 inches. Expansion beyond the 40 inputs and outputs is achieved by adding additional frames and cabling.

The audio and video crosspoint cards are configured in a 40 x 1 format therefore, output expansion within the frame is in increments of one. There are four input amplifier boards in each video frame and each board houses ten input amplifiers. Any crosspoint card within the 5841 or 5842 frames can be extracted with power on, without affecting any other output bus in the system.

The 5840 series can be supplied with LED

numerical readouts on the 40 x 1 video crosspoint modules. This feature is available as an option.

The **5840 routing switcher** can be controlled in various ways. They are; computer, illuminated momentary pushbuttons, thumbwheel with take button and on line indicator, touch pad with preset and on-air indicators and X-Y control. Custom panels with preset, salvo, and single button take are furnished as an option.

Two types of control are available with this series, and they are serial or parallel. The serial method allows you to utilize a single coax cable as the control cable. This control system permits up to 30 panels on a single loop. The parallel method of control is in a bi-directional BCD format and only 11 wires per control cable is required. The diameter of this control cable is only one-quarter of an inch.

External power supplies are utilized to furnish power to the 5840 series and a redundant system with diode switching is available as an option.

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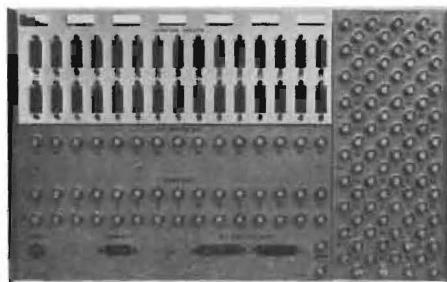
• Tel. 516 - 667-6300

DESCRIPTION

THE 5841 SERIES CONTAINS THE FOLLOWING ITEMS:

Model 5841 frame assembly (video)

The frame is 10½" high and accommodates all the video modules for a 40 x 15 matrix. A hinged down front panel is provided for easy access to the vertically mounted plug-in modules. All matrix frames are provided with connector facilities which enable field expansion to be carried out in a simple and quick fashion. Control and signal loop through connectors are also provided.



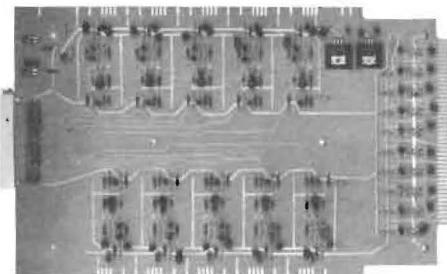
Model 522A Video Matrix Board

This board is arranged in a 40 input x 1 output format. In addition to the crosspoints each card contains its own control, latching and crosspoint tally circuitry. The crosspoints utilize transistor and diodes and the control circuitry is BCD 8 bit parallel with take line. Drive levels are TTL. Each module contains its own output amplifier with a level control mounted up front.



Model 532 Video Input Amplifier

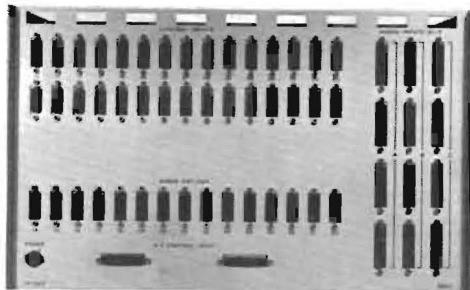
The input circuitry contains a D.C. restorer for APL variations and sync adding for non composite inputs. All of these features can be added or deleted via straps on the module. There are 10 input amplifiers per card and for 40 inputs, 4 cards per frame are required.



Model 562 Vertical Trigger and X-Y Control Card

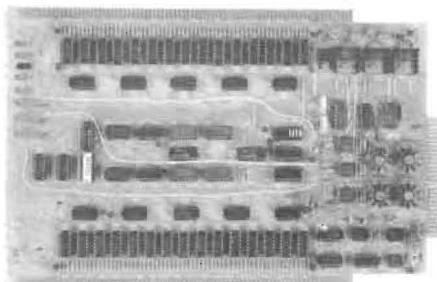
This card provides the trigger pulse for Vertical Interval switching, which is derived from external sync. Should the sync input fail or is not used, then a random trigger pulse is generated. When using the optional sync adder feature, this card processes the sync and distributes it to the input amplifier cards. LED's are provided for sync and trigger failure indication. The 562 also contains the logic circuits for X-Y control.





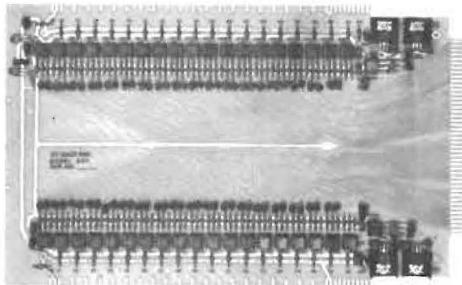
Model 5842 Audio Frame Assembly

The frame is 10½" high and accommodates all the audio modules for a 40 x 15 matrix. A hinged down front panel is provided for easy access to the vertically mounted plug-in modules. All matrix frames are provided with connector facilities which enable field expansion to be carried out in a simple and quick fashion. Control and signal loop through connectors are also provided.



Model 527A Audio Matrix Board

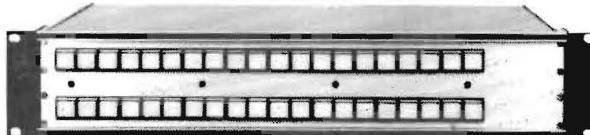
This board is arranged in a 40 input by 1 output format and an I.C. is used for the crosspoint. Switching for three separate audio channels is provided and each channel has its own amplifier with a front panel level control. The 527 also contains circuitry for its own control, latching and crosspoint tally. The control circuitry is BCD 8 bit parallel with take line. Drive levels are TTL.



Model 537 Audio Input Amplifier

The input circuitry contains a differential input and is high-impedance bridging. There are 40 amplifiers on each board and one board per audio channel is required. For three channels of audio you require three input amplifier boards. This board employs redundant regulators with automatic switchover.

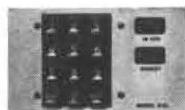
TYPICAL CONTROL PANELS



Single bus control with 40 illuminated momentary pushbutton switches in 3½" of rack space. The pushbutton cap is removable and the lens insert comes in various colors. Clear mylar inserts are used for signal identification.



Single bus thumbwheel control panel with preset and take function. On-line tally is provided and up to 3 thumbwheel controls are mounted on a 1¾" panel.



Single bus touch pad control with separate indicators for preset and on-line functions.



Single bus thumb-wheel control - desk top mount.

NOTE: ALPHA-NUMERIC PANELS ARE ALSO AVAILABLE.

SPECIFICATIONS

VIDEO

INPUT
75 OHM BRIDGING
INPUT RETURN LOSS
>40dB @ 4.5 MHz
INPUT LEVEL
1VP-P NOM.
3VP-P MAX.
INPUT DC RESTORER
SYNC TIP (STRAPABLE)
SYNC INPUT
HI-Z LOOPTHRU, 2-8VP-P
BOUNCE (1V STEP)
TIME CONSTANT > 2 SEC., NO OVERSHOOT
GAIN
UNITY, -4dB to +6dB ADJ.
FREQUENCY RESPONSE
±0.1 TO 5.0 MHz
±0.25 5.0 MHz TO 10MHz
+0, -3dB 10.0 MHz TO 20MHz
DIFFERENTIAL DELAY
±1 DEGREE
DIFFERENTIAL GAIN
< 0.25% 10-90% APL, 3.58/4.43MHz
DIFFERENTIAL PHASE
< 0.25° 10-90% APL, 3.58/4.43MHz
T PULSE TO BAR RATIO
±0.1%
T PULSE K FACTOR
< 0.5%
ELECTRICAL LENGTH
44 NSEC. ±1 NSEC.
FIELD TILT
< 0.5%
CROSSTALK (WORST CASE)
> -70dB @ 15KHz
> -60dB @ 4.5MHz
SIGNAL/NOISE RATIO
> -65dBV
MAXIMUM SWITCHING STEP
5 IRE UNITS, MAX.
MAXIMUM SWITCHING TRANSIENT
< 10 IRE UNITS, MAX.
OUTPUTS
2 PER BUSS, 75 OHM SOURCE TERMINATED
OUTPUT RETURN LOSS
> 40dB @ 15KHz
> 30dB @ 4.5 MHz
OUTPUT LEVEL
1.0VP-P NOM., 3.0VP-P MAX.
OUTPUT EQUALIZATION
Up to 300 FT.
DC ON OUTPUT
50mV, MAX.

AUDIO

INPUT
50K BRIDGING, BALANCED
INPUT DC COMPONENT
±10V MAXIMUM
INPUT LEVEL
+20dBm @ 600 OHM
+26dBm @ 150 OHM
+28dBm @ 600 OHM (Optional)
+30dBm @ 150 OHM (Optional)
COMMON MODE REJECTION
55dB MINIMUM, 20HZ TO 1KHz
TOTAL HARMONIC DISTORTION
<0.5% @ +18dBm, 0.25% typical
<0.5% @ +26dBm or +28dBm
FREQUENCY RESPONSE
±0.25dB MAXIMUM, 20HZ to 20KHz
SIGNAL/NOISE RATIO
>-80dBm (30KHz weighted)
>98dB BELOW +18dBm (30 KHz weighted)
GAIN
UNITY, ±10dB, ADJUSTABLE
CROSS TALK
>70dB, 20Hz TO 20KHz (output to output)
>60dB @ 100KHz
>60dB Inter-channel (A, B & C)
OUTPUT IMPEDANCE (BALANCED)
600 OHMS
100 OHMS FOR HIGH LEVEL OPTION
OUTPUT DC COMPONENT
0V, ±50mV
OUTPUT LEVEL
+18dBm INTO 600 OHMS
+26dBm INTO 600 OHMS (Optional)
+28dBm INTO 150 OHMS (Optional)
CROSSPOINTS
INTEGRATED CIRCUIT

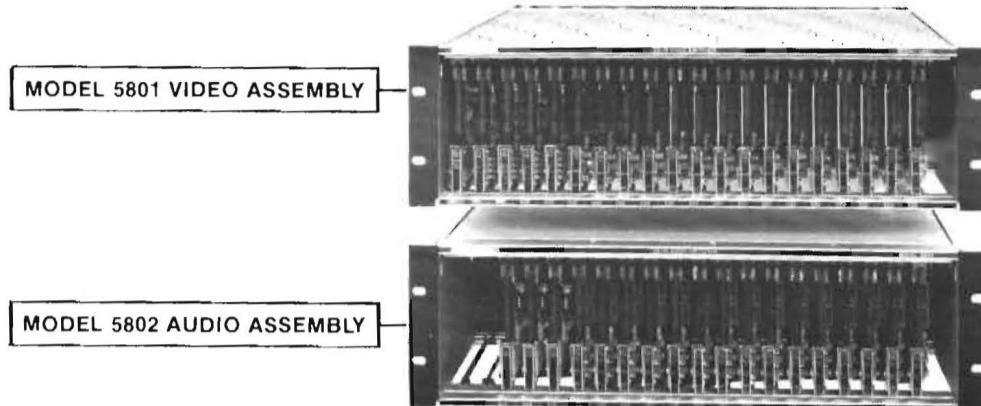
NOTES: (1) ALL VIDEO SPECIFICATIONS
ARE AT 1.0VP-P LEVEL
(2) ALL AUDIO SPECIFICATIONS
ARE AT STANDARD OR
OPTIONAL LEVELS

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AUDIO-VIDEO VERTICAL INTERVAL ROUTING SWITCHER



MODEL 5800 SERIES

20x15 AFV ILLUSTRATED

KEY FEATURES

- 20x15 AFV MATRIX, 10½" RACK SPACE
- 20x1 SWITCHING MODULES
- BCD PARALLEL CONTROL
- CROSSPOINT LATCH FEEDBACK TALLIES
- DIFFERENTIAL INPUT, AUDIO
- EXPANDABLE INPUTS AND OUTPUTS
- 3 LEVEL AUDIO SWITCHING, OPT.
- DC RESTORER FOR VIDEO INPUTS
- LED READOUTS, CROSSPOINTS STATUS, OPT.
- AUDIO BREAKAWAY, OPT.

DESCRIPTION

The **5800 series AFV routing switcher** employs separate frames to house the video and audio modules. A building-block approach is utilized in order to simply expand the inputs or outputs as future requirements change. Non-proprietary multi-source components are used throughout and there are no specialized single source items utilized in the system.

The audio and video switching modules contain 20 x 1 matrixies complete with output amplifiers. When the switching module is extracted from the frame you only effect those inputs to that one output buss. Other output busses are not effected. The video and audio matrix frames are arranged in a 20 input by 15 output format. Each frame occupies 5½ inches of rack space so for a 20 x 15 AFV matrix you only require 10½ inches of rack space. Each 20 x 1 video switching module contains an LED

numerical readout for crosspoint status. This is in addition to the tally feedback indicator on the control panel.

Control input and crosspoint tally return are in a bi-directional BCD format, therefore only eleven wires are required for the control cable. The basic capacity is 100 inputs and expansion beyond that requires additional control facilities. Various methods of control are (I) illuminated momentary pushbuttons (II) thumbwheel with take button and tally indicator (III) touch pad with preset and on-air indicators (IV) external computer or controller.

External power supplies are furnished with the system. The rack space for the supplies vary, depending on the matrix ordered. Dual power supplies and battery back-up systems for crosspoint memory are available as an option.

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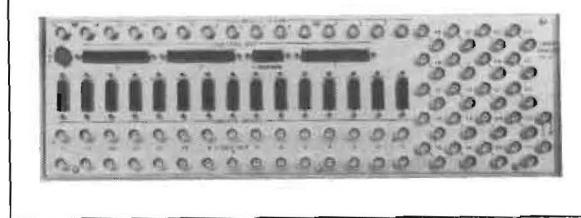
• Tel. 516 - 667-6300

DESCRIPTION

THE 5800 SERIES CONTAINS THE FOLLOWING ITEMS:

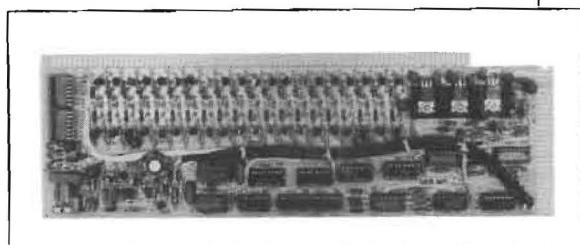
Model 5801 frame assembly (video)

The frame is 5 $\frac{1}{4}$ " high and accommodates all the video modules for a 20 x 15 matrix. A hinged down front panel is provided for easy access to the vertically mounted plug-in modules. All matrix frames are provided with connector facilities which enable field expansion to be carried out in a simple and quick fashion. Control and signal loop through connectors are also provided.



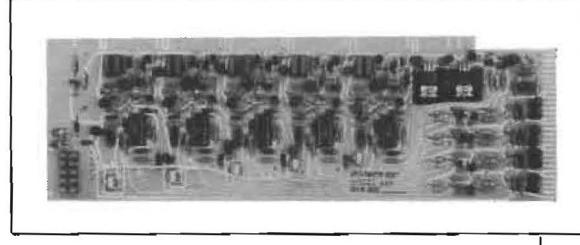
Model 520 Video Matrix Board

This board is arranged in a 20 input x 1 output format. In addition to the crosspoints each card contains its own control, latching and crosspoint tally circuitry. The crosspoints utilize transistors and diodes and the control circuitry is BCD 8 bit parallel with take line. Drive levels are TTL. Each module contains its own output amplifier with a level control mounted up front.



Model 530 Video Input Amplifier

The input circuitry contains a D.C. restorer for APL variations and sync adding for non composite inputs. All of these features can be added or deleted via straps on the module. There are 5 input amplifiers per card and for 20 inputs, 4 cards per frame are required.

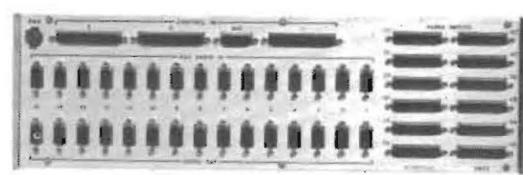


Model 560 Vertical Trigger Card

This card provides the trigger pulse for Vertical Interval switching, which is derived from external sync. Should the sync input fail or is not used, then a random trigger pulse is generated. When using the sync adder feature, this card processes the sync and distributes it to the input amplifier cards. LED's are provided for sync and trigger failure indication.

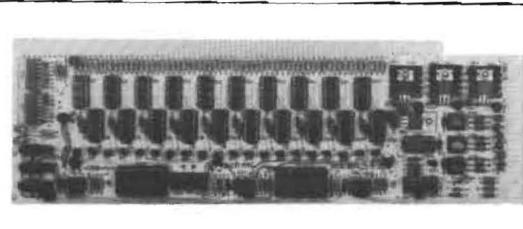


5800 SERIES CONTINUED



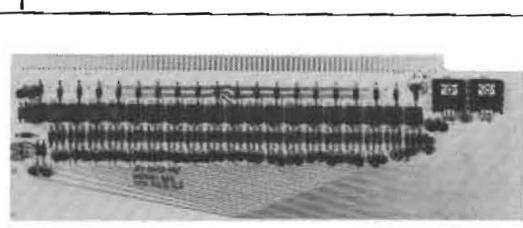
Model 5802 Audio Frame Assembly

The frame is 5 $\frac{1}{4}$ " high and accommodates all the audiomodules for a 20 x 15 matrix. A hinged down front panel is provided for easy access to the vertically mounted plug-in modules. All matrix frames are provided with connector facilities which enable field expansion to be carried out in a simple and quick fashion. Control and signal loop through connectors are also provided.



Model 525 Audio Matrix Board

This board is arranged in a 20 input by 1 output format and an I.C. is used for the crosspoint. Switching for three separate audio channels is provided and each channel has its own amplifier with a front panel control. The 525 accepts the BCD data from the 520 card, decodes it and drives the I.C. crosspoint.



Model 535 Audio Input Amplifier

The input circuitry contains a differential input and is high-impedance bridging. There are 20 amplifiers on each board and one board per audio channel is required. For three channels of audio you require three input amplifier boards. The operational amplifier employs an I.C.

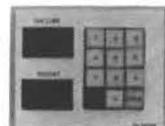
TYPICAL CONTROL PANELS



Single bus control with 20 illuminated momentary pushbutton switches in 1 $\frac{3}{4}$ " of rack space. The pushbutton cap is removable and the lens insert comes in various colors. Clear mylar inserts are used for signal identification.



Single bus thumbwheel control panel with preset and take function. On-line tally is provided and up to 3 thumbwheel controls are mounted on a 1 $\frac{3}{4}$ " panel.



Single bus touch pad control with separate indicators for preset and on-line functions.

SPECIFICATIONS

VIDEO

INPUT
75 OHM BRIDGING
INPUT RETURN LOSS
>40dB @ 4.5 MHz
INPUT LEVEL
1VP-P NOM.
3VP-P MAX.
INPUT DC RESTORER
SYNC TIP (STRAPABLE)
SYNC INPUT
HI-Z LOOPTHRU, 2-8VP-P
BOUNCE (1V STEP)
TIME CONSTANT > 2 SEC., NO OVERSHOOT
GAIN
UNITY, -4dB to +6dB ADJ.
FREQUENCY RESPONSE
±0.1 TO 5.0 MHz
±0.25 5.0 MHz TO 10MHz
+0, -3dB 10.0 MHz TO 20MHz
DIFFERENTIAL DELAY
±1 DEGREE
DIFFERENTIAL GAIN
< 0.25% 10-90% APL, 3.58/4.43MHz
DIFFERENTIAL PHASE
< 0.25° 10-90% APL, 3.58/4.43MHz
T PULSE TO BAR RATIO
±0.1%
T PULSE K FACTOR
< 0.5%
ELECTRICAL LENGTH
44n SEC, ±1n SEC.
FIELD TILT
< 0.5%
CROSSTALK (WORST CASE)
> -70dB @ 15KHz
> -60dB @ 4.5MHz
SIGNAL/NOISE RATIO
> -65dBV
MAXIMUM SWITCHING STEP
5 IRE UNITS, MAX.
MAXIMUM SWITCHING TRANSIENT
< 10 IRE UNITS, MAX.
OUTPUTS
2 PER BUSS, 75 OHM SOURCE TERMINATED
OUTPUT RETURN LOSS
> 40dB @ 15KHz
> 30dB @ 4.5 MHz
OUTPUT LEVEL
1.0VP-P NOM., 3.0VP-P MAX.
DC ON OUTPUT
50mV, MAX.

AUDIO

INPUT
50K BRIDGING, BALANCED
INPUT DC COMPONENT
±10V MAXIMUM
INPUT LEVEL
+20dBm @ 600 OHM
+26dBm @ 150 OHM
COMMON MODE REJECTION
55dB MINIMUM, 20HZ TO 1KHz
TOTAL HARMONIC DISTORTION
< 0.5% @ +18dBm
FREQUENCY RESPONSE
±0.25dB MAXIMUM, 20HZ TO 20KHz
SIGNAL/NOISE RATIO
> -70dBm
-88dB BELOW +18dBm
GAIN
UNITY, ±10dB, ADJUSTABLE
CROSS TALK
> 70dB, 20Hz TO 20KHz
> 60dB @ 100KHz
OUTPUT IMPEDANCE
600 OHMS BALANCED
150 OHMS AVAILABLE
OUTPUT DC COMPONENT
0V, ±50mV
OUTPUT LEVEL
+18dBm @ 600 OHM
CROSSPOINTS
INTEGRATED CIRCUIT

NOTES: (1) ALL VIDEO SPECIFICATIONS
ARE AT 1.0VP-P LEVEL

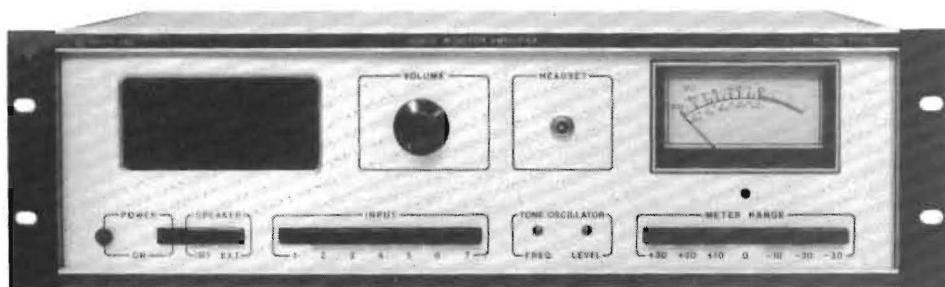
(2) ALL AUDIO SPECIFICATIONS
ARE AT +18dBm LEVEL

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MODEL 7001C



KEY FEATURES

- 7 INPUTS, SWITCHABLE
- INTERNAL SPEAKER
- 10 WATT AMPLIFIER
- HEADSET JACK

- BUILT IN TONE GENERATOR
- VU RANGE, -40 TO +33 db
- 600 OHM OUTPUT
- HI-Z BRIDGING INPUTS

DESCRIPTION

The model 7001 has been redesigned mechanically and electrically in order to standardize on certain features such as: 7 inputs, tone generator, headset jack and switchable 115/230 VAC power. Previous options have been eliminated and the current model number is now 7001C. The plug-in board concept has been eliminated in favor of a single mother board approach.

The model 7001C audio monitor amplifier has been designed for use in TV stations, AM/FM stations, earth satellite stations and other telecommunication applications where listening, measuring, testing and switching of multiple audio inputs is required.

The VU meter amplifier increases the audio input to a sufficient level in order to provide an

input range of -30 to +30 dBm for 0 VU on the meter. This range is achieved by utilizing the 7 decades of attenuation located on the front panel. In addition, a 600 ohm auxiliary output is provided with an adjustable level from 0 to +10 dBm.

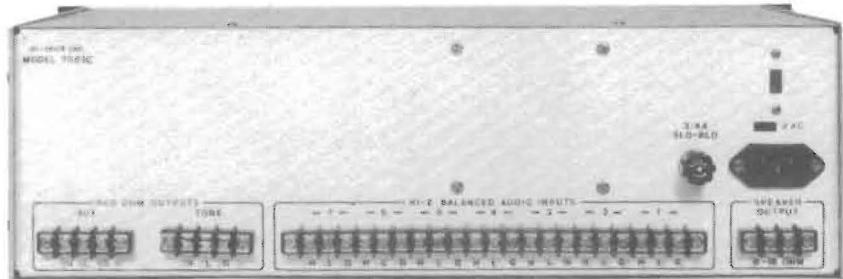
For listening purposes, a 10 watt amplifier and internal speaker is provided. An external speaker can be utilized by simply disengaging the internal speaker via a front panel switch. The speaker output is short circuit protected.

The Tone Generator provides a CW in the frequency range of 400 Hz to 15 KHz. Output level is adjustable from 0 to +10 dBm. The oscillator is factory set to generate a frequency of 1 KHz but this can be readily changed in the field by an on-board potentiometer.

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SPECIFICATIONS

ELECTRICAL

INPUT	50K, Balanced
INPUT SWITCHING	Gap, (Break before Make)
INPUT LEVEL	-30 to +30 dBm for 0 VU
0 VU LEVEL	Adjustable, 0 dBm to +10 dBm
VU RANGE	-40 to +33 VU
TONE OSCILLATOR	400 Hz to 15 KHz adjustable, CW
A.C. POWER	115/230 VAC, Switch Selectable ±10%, 50 or 60 Hz, 40 Watts

	VU Meter	Speaker Output	Auxiliary Output	Tone Oscillator
FREQUENCY RESPONSE 30 Hz to 20 KHz	±0.3 VU	±0.5 dB	±0.2 dB	N/A
HARMONIC DISTORTION (Max.)	N/A	1%	0.5%	0.5%
SIGNAL TO NOISE	> 60 dB	-60 dB	-60 dB	N/A
OUTPUT IMPEDANCE	N/A	8-16 Ohms	600 Ohms	600 Ohms
OUTPUT LEVEL	N/A	12 Watts	0 to +10 dBm	0 to +10 dBm

MECHANICAL

SIZE	5 1/4" H. (133 mm), 19" W. (483 mm), 16" D. (406 mm)
WEIGHT	15 lbs. (7 Kg)
MOUNTING	Standard E.I.A., 19" Rack Mount, 3RU
AUDIO CONNECTORS	Screw Type, Terminal Block
HEADSET JACK	Std. 2 Conductor 1/4" Dia. Phone Plug
A.C. LINE CORD	3 Wire, 6' Length (1.9 meters)

ORDERING INFORMATION

Model 7001C

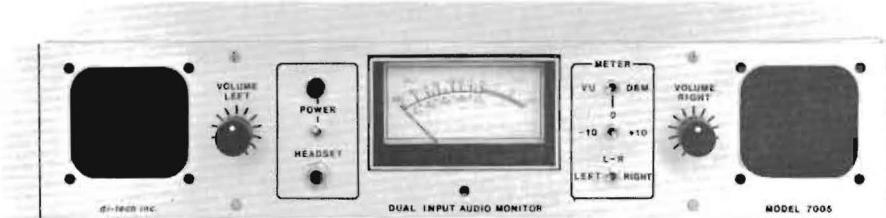
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STEREO AUDIO
MONITOR/AMPLIFIER

MODEL 7005



KEY FEATURES

- INTERNAL SPEAKERS
- 5 WATT RMS/PER CHANNEL
- STEREO HEADSET JACK
- BUILT IN TONE GENERATOR
- SWITCHABLE VU/DMB METER
- SWITCHABLE 600 OHM/HI Z INPUT
- INDEPENDENT VOLUME CONTROLS
- SWITCHABLE PHONO JACK/3 PIN XLR INPUT CONNECTORS

DESCRIPTION

The model 7005 has been designed for purposes of monitoring and measuring dual mono or a single stereo audio channel. Each output stage is rated at 5 watts RMS with less than .25% distortion. The dual speakers are controlled by separate volume controls mounted on the front panel.

The front panel meter is switchable to read VU or dBm. Since the meter amplifier section can be attenuated by a front panel switch, it provides an input range of -20 to +13dBm or VU and is factory set to +4 dBm equaling 0VU. In addition, the meter circuit is switchable to allow you to monitor the left or right channels independently and the L-R position will determine variations in gain between

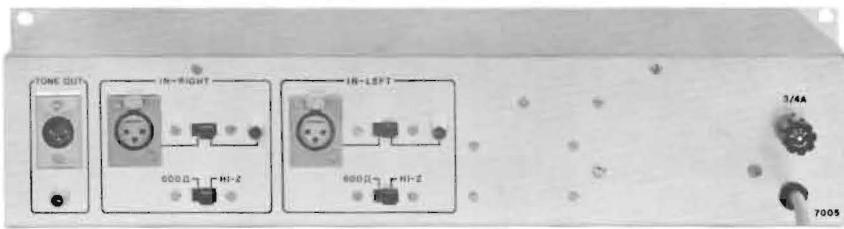
channels.

The input connectors are located on the back panel and they can be switched to either a standard 3 pin XLR audio connector or phono jack. The input termination is also switch selectable to 600 ohm or high impedance.

The tone oscillator provides a continuous sine wave at a factory set frequency of 1 KHz., and the output level is adjustable from 0 to +10 dBm with total harmonic distortion being less than 0.5%. The output of the tone oscillator utilizes a standard 3 pin XLR audio connector and phono jack located in the back panel.

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SPECIFICATIONS

ELECTRICAL

INPUT 100K, Balanced
 INPUT LEVEL -10 to +10 dBm for 0 VU
 0 VU LEVEL Adjustable, 0 dBm to +10 dBm
 VU RANGE -20 to +13 VU
 DBM Range -20 to +13 dBm
 LEFT TO RIGHT IMBALANCE <.1 dBm/VU
 TONE OSCILLATOR 400 Hz to 15 KHz, adjustable
 AC POWER 115 VAC ± 10%, 50 or 60 Hz.
 30 watts.

	Speaker	VU/DBM Meter	Tone Oscillator
FREQUENCY RESPONSE			
60 Hz to 20 KHz	±.3 dB	±.2 VU/±.1 dBm	N/A
30 Hz to 60 Hz	±1.5 dB	±.5 VU/±.25 dBm	N/A
HARMONIC (MAX) DISTORTION			
	0.25%	N/A	0.5%
SIGNAL TO NOISE			
	-65 dB	>60 dB	N/A
OUTPUT IMPEDANCE			
	N/A	N/A	600 ohm
OUTPUT LEVEL			
	5 watts RMS per channel	N/A	0 to +10 dBm

MECHANICAL

SIZE 3½" (89mm) H, 19" (483mm) W, 7" (178mm) D
 WIDTH 7½ lbs. (3.4 Kg)
 MOUNTING Standard E.I.A., 19" Rack Mount, 2 RU
 AUDIO CONNECTOR 3 Pin XLR, Phono jack
 HEADSET JACK Standard ¼" stereo jack
 AC LINE CORD 3 wire, 6' length (1.9 meters)

ORDERING INFORMATION

Model 7005

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PRICE LIST

6 146

MODEL	DESCRIPTION	PRICE
110	Video D.A., 1 x 6, <u>D.C.</u> coupled outputs	280.00
	A.C. coupled outputs	295.00
120	Video D.A., 1 x 6, w/differential input & clamper	370.00
	Option A — Model 120 w/10dB cable equalizer	420.00
150	Pulse D.A., 1 x 6	265.00
151	Pulse D.A., w/variable delay. 1 adjustment per 6 outputs	315.00
	Option A — Model 151 w/3 adjustments, 1 adj. per 2 outputs	375.00
170	Audio D.A., 1 x 6 w/+18dBm output	250.00
171	Audio D.A., 1 x 6 w/+22dBm output	320.00
402	Video Presence Detector, 4 inputs, 4 alarm relays.....	330.00
403	Video Presence Detector, 2 inputs, relay switching.....	305.00
404	Video Presence Detector, 4 inputs, 2 alarm relay per input	455.00
410	Video Presence Detector, 4 numbers, APL detectors	495.00
411	Video Presence Detector, w/numerical character generator.....	395.00
412	Video Source Identifier, 4 digits.....	295.00
413	Video Source Identifier, 3 numbers and 2 letters	315.00
470	Audio Tone Generator, 20-100 Hz.....	305.00
471	Audio Tone Detector, 20-100 Hz	395.00
504	4 x 1 Audio/Video switcher plug-in card (Model 5400)	465.00
509	4 x 2 Audio/Video switcher plug-in card (Model 5500)	430.00
513	12 x 1 Audio Only switcher plug-in card (Model 5413)	210.00
723	10 watt speaker amplifier	210.00
1200	75/124 OHM, Clamper, Amplifier, and Equalizer	1,100.00
5106	6 x 1 Passive Video Switcher, non-illuminated buttons	210.00
5112	12 x 1 Passive Video Switcher, non-illuminated buttons	275.00
5400	AFV, remote controlled routing switcher w/V.I. switching: Matrix, 12 x 2	2,675.00
	Matrix, 8 x 2	2,210.00
	Matrix, 4 x 1	1,555.00

NOTE:

Price includes 1 1/4" control panels with momentary illuminated pushbuttons, V.I. switching, 50 ft. control cables and one 10 foot Audio IN/OUT cable.

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48 JEFRYN BLVD., DEER PARK, N.Y. 11729

• Tel. 516 - 667-6300

MODEL	DESCRIPTION	PRICE
Options: (5400 continued)		
	A. Tally relays, add \$270 for 12 in., \$200 for 8 in., \$125 for 4 in.	
	B. Control cables, extra lengths add .70 per ft.	
	C. Touchtone control	Price on request.
	D. BNC looping coax cables (8279) 6" length at \$9.00 each.	
5412	AFV, remote controlled routing switcher with: A. 12 x 1 matrix B. 2 channels of audio per input C. V.I. switching	2,235.00
NOTE:		
	Price includes one 12 x 1 control panel with illuminated pushbuttons, one 50 foot control cable and one 10 foot audio IN/OUT cable.	
5413	Audio only switcher	
	12 x 1 matrix	1,305.00
	12 x 2 matrix	1,625.00
	12 x 3 matrix	1,950.00
5414	Audio only switcher, up to 36 x 1 Matrix	see 5413 pricing
5415	Audio only switcher, up to 3, 12 x 1 Matrices	see 5413 pricing
NOTE: Prices include control cables and control panels for Models 5413, 5414 and 5415.		
5470	Telephone Tone Accessed switching system:	
	4 x 4 Video only Matrix.....	3,690.00
	4 x 4 Audio follow video Matrix	4,080.00
	Option A — Battery back-up system	390.00
5500	AFV, remote controlled switcher with V.I. switching:	
	Matrix 28 x 2	5,540.00
	Matrix 24 x 2	5,125.00
	Matrix 20 x 2	4,711.00
5501	Video only, remote controlled switcher w/VI switching:	
	Matrix 28 x 2	5,040.00
	Matrix 24 x 2	4,620.00
	Matrix 20 x 2	4,205.00
5502	Audio only, remote controlled switcher:	
	Matrix 28 x 2	5,400.00
	Matrix 24 x 2	4,620.00
	Matrix 20 x 2	4,205.00
	Option:	Camera tally relay
	Matrix 28 x 2580.00
	Matrix 24 x 2545.00
	Matrix 20 x 2460.00

NOTE:

For models 5500, 5501 & 5502, price includes 50 ft., control cables and momentary illuminated pushbuttons. Price for extra cable lengths is .95 per ft.

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MODEL	DESCRIPTION	PRICE
5700	Touchtone control system, consisting of models: 570 Tone Decoder 572N/P Control Decoder 573 Control Decoder, momentary relay output..... 573A & C Control Decoder, magnetic latching relays (12) 573B Control Decoder, magnetic latching relays (6) 575 Tone Encoder 578 X-4 Control Decoder for model 5840/5800 switchers 3137A Automatic Answering Card w/compression amplifier	390.00 245.00 325.00 420.00 375.00 210.00 425.00 320.00
5800	Price on Request	
5815	AFV, remote controlled routing switcher with A. 15 x 7 matrix B. 2 channels of audio per input C. V.I. switching D. Seven, 50 foot control cables E. Power supply w/crosspoint memory.	9,245.00
	NOTE: Prices do not include control panels. Available control panels with prices are: 1. Model 920-1 — Illuminated pushbutton 2. Model 910-1 — Thumbwheel w/readout and take button..... 3. Model 915B1 — Touchpad w/input and on-line readouts	445.00 250.00 360.00
5820	AFV, remote controlled routing switcher with A. 20 x 6 matrix B. 3 channels of audio per input C. V.I. switching D. Six, 50 foot control cables E. Power supply w/crosspoint memory	9,290.00
	NOTE: Prices do not include control panels. Available control panels with prices are: 1. Model 920-1 — Illuminated pushbutton 2. Model 910-1 — Thumbwheel w/readout and take button..... 3. Model 915B1 — Touchpad w/input and on-line readouts	445.00 250.00 360.00
5840	Price on Request	
7001	Audio Monitor/Amplifier, 7 inputs and tone generator.....	1,050.00
7005	Audio Monitor Amplifier, stereo input	610.00

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PRICE LIST

MODEL	DESCRIPTION	PRICE
FRAMES AND POWER SUPPLIES		
101	1½" frame, w/power supply, mounts up to 3 modules	320.00
103	5½" frame, mounts up to 10 modules and 801 P/S	295.00 ✓
801	Power Supply for model 103 frame.....	425.00 ✓
802	Power Supply (used only with model 171 audio D.A.)	465.00
803	Power Supply (D.C. input, 24 or 48 V).....	790.00
ACCESSORIES		
90021	Blank panels, 101 frame	27.00
90022	BNC termination, 75 OHM 1%	9.00
90023	Extender Card, 101 and 103 frames	47.00
90056	Extender Card, Model 5412	140.00
5800017-1	Extender Card, Model 5800	90.00
5840007-1	Extender Card, 28 contact positions, Model 5840	140.00
5840007-2	Extender Card, 44 contact positions, Model 5840	140.00
	Extra Instruction manuals	13.00

EFFECTIVE DATE: February 1, 1982 Prices F.O.B. Deer Park, N.Y.

NOTE: Prices subject to change without notice.

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7 DAY COMPUTER CONTROLLER

Pace 1000 consists of: \$11,500.00

- A. Intel SBC 655 chassis including all RAM and EPROM boards
- B. ADDS video terminal

Pace 2000 same as above with additional features 12,500.00

Optional Peripheral Equipment

1.	Back-up power supply	900.00
2.	Printer (paper)	1,100.00
3.	Case of paper for printer.....	70.00
4.	Modem #3434 w/handset coupler.....	1,180.00
5.	Modem #3455 (for computer location)	1,090.00
6.	ADDS video terminal (additional units)	1,600.00
7.	Model 2100 automatic logger (without printer)	1,685.00

Optional Output Interface Hardware

Model	Description	Price
3001	5½" source/dest. frame assembly, up to 16 modules	855.00
3002	5½" unit/function frame assembly, up to 16 modules	855.00
3005	1¾" unit/function frame assembly, up to 3 modules	500.00
3006	1¾" source/dest. frame assembly, up to 3 modules	500.00
801	Power supply (used with 3001 frame)	425.00
300	Source/dest. card, 20 x 1 latch, TTL output	250.00
301	Source/dest. card, 100 x 1 BCD latch	260.00
303	Unit/function card, 10 on/off relays, latch or momentary.....	300.00
304	Unit/function card, 8 relays, momentary or latch, VTR control	275.00
305	Source/dest. card, 16 x 1 binary output (Hughes SVR 463)	270.00
580	Source/dest. 12 x 1 format (used w/5400 A/V switcher).....	250.00
584	Serial to parallel converter (use 101 frame)	500.00
973	Master source/dest. override and interface, panel, 3½" x 19" w/auto disconnect. Thumbwheel selection for inputs and outputs (for models 5800 & 5840)	710.00
976	Master unit/function override and interface panel	710.00

Eff. date February 1, 1982

FOB Deer Park, N.Y.

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